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01-21-04 AF/2800
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s): Brian A. Vaartstra) Group Art Unit: 2823
Serial No.: 09/865,612) Examiner: George Fourson III
Confirmation No.: 4697) Docket No. 150.00810102
Filed: May 25, 2001)
For: METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL-
CONTAINING FILMS ON SEMICONDUCTOR STRUCTURES

Commissioner for Patents
Mail Stop AF
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

- ☒ An itemized return postcard.
☐ A Petition for Extension of Time for ___ month(s) and a check in the amount of \$___ for the required fee.
☒ Please charge Deposit Account No. 13-4895 in the amount of \$330.00 for the appropriate fee.
☒ Appeal Brief (12 pgs. (including Appendix I and II) - in triplicate); Copies of 10 cited Authorities and Documents (in triplicate).
Amendment ___ No Additional fee is required. ___ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$18 =	
Independent Claims				x \$86 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$290 Here →					
Total Additional Claim Fees Required					

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

MUETING, RAASCH & GEBHARDT, P.A.
Customer Number: 26813

By:
Name: Loren D. Albin
Reg. No.: 37,763
Direct Dial: 612-305-1225
Facsimile: 612-305-1228

CERTIFICATE UNDER 37 CFR §1.10::

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By:
Name: SARA E. OLSON

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PATENT
Docket No. 150.00810102

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s):	Brian A. Vaartstra)	Group Art Unit:	2823
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Serial No.:	09/865,612)	Examiner:	George Fourson III
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For:	METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL- <u>CONTAINING FILMS ON SEMICONDUCTOR STRUCTURES</u>			

APPELLANT'S BRIEF ON APPEAL

Commissioner for Patents
Mail Stop AF
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant presents this Appeal Brief in support of the appeal from the final rejection of claims 18-38, as indicated in the Notice of Appeal filed in the above-identified patent application on November 20, 2003.

Real Party In Interest

The real party in interest is Micron Technology, Inc., of Boise, Idaho, as evidenced by the assignment recorded September 2, 1998, at Reel 9442, Frame 0583, for the parent application, U.S. Serial No. 09/146,003, filed September 2, 1998 (now U.S. Pat. No. 6,281,124).

Related Appeals and Interferences

There are no related appeals or interferences pending in connection with any related applications.

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Status of Claims

Claims 1-17 having been canceled, the pending claims are claims 18-38. Rejected claims 18-38, all of which are on appeal, are listed in Appendix I.

Status of Amendments

An Amendment and Response under 37 C.F.R. §1.116 was submitted by Appellant on October 20, 2003. The amendment was denied entry by the Examiner in the Advisory Action mailed October 28, 2003. Thus, the claims listed in Appendix I do not reflect the amendments requested in the Amendment and Response under 37 C.F.R. §1.116 submitted by Appellant on October 20, 2003.

Summary of the Invention

Independent claims 18, 19, 33, and 38 each recite, among other things, a chemical vapor deposition system including a vessel containing *a precursor including one or more complexes of the formula: $[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$* (e.g., page 5, line 25 to page 6, line 24; and page 12, line 16 to page 16, line 11 of the present specification).

Issue

Whether claims 18-38 are unpatentable under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,328,804 (Murzin et al.).

Grouping of Claims

For the purposes of this appeal, claims 18-38 stand or fall together with respect to the Issue identified herein above.

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Arguments

Claims 18-38 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,328,804 (Murzin et al.). Appellant respectfully traverses the rejection, and requests review and reversal by the Board.

"[F]or anticipation under 35 U.S.C. 102, the reference must teach *every aspect* of the claimed invention either explicitly or impliedly." M.P.E.P. §706.02 (emphasis added). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the patent claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Murzin et al. disclose a "method and system for chemical vapor deposition" (Abstract). However, Murzin et al. lack, among other things, a chemical vapor deposition system that includes a vessel containing *a precursor including one or more complexes of the formula: $[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$* . Thus, Appellant respectfully submits that the Examiner has failed to establish a *prima facie* case of anticipation of claims 18-38 under 35 U.S.C. §102(e).

However, in the Final Office Action mailed August 20, 2003, the Examiner maintained the rejection stated in the Office Action mailed December 3, 2002 (at page 2), in which the Examiner asserted that the "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims," citing as support *In re Young*, 75 F.2d 996 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). Further, in the Final Office Action mailed August 20, 2003, the Examiner referred to M.P.E.P. §2115 (page 2 of the Office Action mailed August 20, 2003), which states:

In *In re Young*, a claim to a machine for making concrete beams included a limitation to the concrete reinforced members **made by the machine** as well as the structural elements of the machine itself. The court held that the **inclusion of the article formed** within the body of the claim did not, without more, make the claim patentable (emphasis added).

In short, the Examiner is using *In re Young* as authority for denying patentable weight to the language "*a precursor including one or more complexes of the formula:*

$[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$." Appellant respectfully submits that the present claims can be distinguished from the facts presented in *In re Young* for at least the reasons presented herein below.

A. CLAIMS 18-38 ARE DIRECTED TO A CHEMICAL VAPOR DEPOSITION SYSTEM, NOT MERELY A MACHINE

The M.P.E.P. at §2115 cautions that "this line of cases [e.g., *In re Young*] is limited to claims directed to **machinery** which works upon an article or material in its intended use. It does not apply to product claims or kit claims (i.e., claims directed to a plurality of articles grouped together as a kit)" (emphasis added).

Appellant respectfully submits that he is not claiming merely a **machine**, but a chemical vapor deposition **system** that is capable of forming a metal-containing film on a substrate, wherein the system includes, among other things, a deposition chamber and a vessel containing the recited precursor. Thus, the vessel containing the recited precursor is an element of the claimed system. Indeed, the system as claimed could not function to deposit a metal-containing film on the substrate without a precursor.

B. CLAIMS 18-38 RECITE SUBJECT MATTER THAT CAN LEND PATENTABILITY TO A CLAIM

The M.P.E.P., in discussing *In re Young*, provides a direction for determining patentability by stating that "[t]he court held that the inclusion of the article formed within the body of the claim did not, *without more*, make the claim patentable" (M.P.E.P. §2115, emphasis added). Appellant respectfully submits that the present claims (e.g., chemical vapor deposition systems that include a *precursor*) can be distinguished from the claims discussed by *In re Young* (e.g., machines for making concrete beams including, as an element, the concrete reinforced

structures). For example, there is nothing in the record of *In re Young* to indicate that the material being worked upon (i.e., the concrete reinforced structures), or methods of making or using the material being worked upon, were subject matter that would be patentable over the prior art. Conversely, the United States Patent and Trademark Office determined that methods reciting *a precursor composition including one or more complexes of the formula:*

$[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$ (e.g., independent claims 1 and 15 of issued U.S. Pat. No. 6,281,124 (Vaartstra), the parent of the present application) were patentable over the art of record. Furthermore, the United States Patent and Trademark Office issues patents having claims directed to *chemical vapor deposition systems* that include a precursor including, for example, U.S. Pat. Nos. 6,306,217 (Uhlenbrock et al.) and 6,444,041 (Vaartstra). Thus, in accordance with M.P.E.P. §2115, Appellant has provided reasons for the patentability of the presently pending claims.

C. CLAIMS 18-38 DO NOT RECITE THE MATERIAL MADE BY THE CLAIMED SYSTEM

In *In re Young*, the claim at issue (i.e., claim 6) recited "a machine for making concrete beams" and further recited the "concrete reinforced . . . members" made by the machine.

In contrast, the presently claimed chemical vapor deposition systems are useful for forming a metal-containing film on a substrate (e.g., page 13, lines 4-22 of the present specification). Thus, a metal-containing film on a substrate is the material "made by" the present system. However, Appellant is not including "a metal-containing film on a substrate" in the body of the claim. Thus, Appellant respectfully submits that the present claims do not recite the material "made by" or "worked upon" by the claimed system.

D. IN RE YOUNG ADDRESSES OBVIOUSNESS, NOT ANTICIPATION

Claims 18-38 of the present application are rejected under 35 U.S.C. §102(e) as being *anticipated* by Murzin et al. Conversely, claim 6 of *In re Young* was found by the court to be *obvious* over the prior art, not *anticipated*: ("We do not understand the tribunals of the Patent

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Office to hold that the references cited of themselves constitute an anticipation of appellant's device, but rather it is held that, in view of them, no invention is involved." *In re Young*, F.2d at 998.).

Based on the arguments presented herein above, Appellant reiterates that "for anticipation under 35 U.S.C. 102, the reference must teach *every aspect* of the claimed invention either explicitly or impliedly." M.P.E.P. §706.02 (emphasis added). Appellants respectfully submit that Murzin et al. fail to teach *every aspect* of the present invention, and thus, fail to anticipate present claims 18-38.

APPELLANT'S BRIEF ON APPEAL

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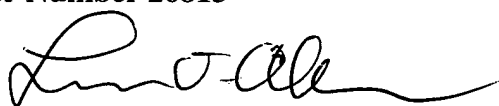
Conclusion

For at least the reasons presented herein above, Appellant respectfully requests that patentable weight be given to the recitation of "*a precursor including one or more complexes of the formula: $[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$* ." Review and reversal of the rejections of claims 18-38 are respectfully requested.

Respectfully submitted for
Brian A. Vaartstra

By
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By: 
Name: SARA E. OLSON

APPENDIX I - PENDING CLAIMS ON APPEAL
Serial No.: 09/865,612
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18. A chemical vapor deposition system comprising:

a deposition chamber having a substrate positioned therein;

a vessel containing a precursor comprising one or more complexes of the

formula:



wherein:

M is a group IVB, VB, or VIB metal;

each R^1 , R^2 , R^3 , and R^4 is independently H or an organic group;

L is selected from the group of CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 ,

wherein each R^5 , R^6 , and R^7 group is independently an organic group;

$x = 1$ to 4; and

$y = 1$ to 4; and

a source of inert carrier gas for transferring the precursor to the chemical vapor deposition chamber.

19. A chemical vapor deposition system comprising:

a deposition chamber having a substrate positioned therein;

a vessel containing a precursor composition comprising one or more complexes of the formula:



wherein:

M is a Group IVB, VB, or VIB metal;

each R^1 , R^2 , R^3 , and R^4 is independently H or an organic group;

each L is independently CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 , wherein each R^5 , R^6 , and R^7 group is independently an organic group;

$x = 1$ to 4; and

$y = 1$ to 4.

Appendix I

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20. The system of claim 19 wherein the deposition chamber is adapted for forming a metal-containing film comprising vaporizing the precursor composition and directing it toward the semiconductor substrate or substrate assembly using a chemical vapor depositional technique.
21. The system of claim 20 wherein the chemical vapor deposition technique comprises flash vaporization, bubbling, microdroplet formation, or combinations thereof.
22. The system of claim 20 wherein the precursor composition is vaporized in the presence of a carrier gas.
23. The system of claim 20 wherein the precursor composition is vaporized in the presence of a reaction gas.
24. The system of claim 23 wherein the reaction gas is selected from the group of H₂, SiH₄, Si₂H₆, NH₃, N₂H₄, PH₃, AsH₃, GeH₄, t-BuSbMe₂, H₂S, H₂Se, Te(allyl)₂, and combinations thereof.
25. The system of claim 19 wherein each R¹, R², R³, and R⁴ group is independently H or a (C₁-C₃₀)organic group.
26. The system of claim 19 wherein the complex is a monomer.
27. The system of claim 19 wherein each R¹, R², R³, and R⁴ group is independently H or a (C₁-C₄)alkyl moiety.
28. The system of claim 19 wherein R⁷ is cyclopentadienyl or a substituted cyclopentadienyl.

Appendix I

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29. The system of claim 19 wherein the precursor composition is a liquid.
30. The system of claim 19 wherein the metal is a Group VB metal.
31. The system of claim 30 wherein the metal is vanadium.
32. The system of claim 19 wherein the metal-containing film is a Group IVB, VB, or VIB metal alloy film.
33. A chemical vapor deposition system comprising:
a deposition chamber having a semiconductor substrate or substrate assembly positioned therein;
a vessel containing a precursor composition comprising one or more complexes of the formula:
$$[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$$

wherein:
M is a Group IVB, VB, or VIB metal;
each R^1 , R^2 , R^3 , and R^4 is independently H or an organic group;
each L is independently CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 , wherein each R^5 , R^6 , and R^7 group is independently an organic group;
 $x = 1$ to 4; and
 $y = 1$ to 4.
34. The system of claim 33 wherein each R^1 , R^2 , R^3 , and R^4 is independently H or a (C_1-C_{30}) organic group.
35. The system of claim 33 wherein the complex is a monomer.

Appendix I

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36. The system of claim 33 wherein each R^1 , R^2 , R^3 , and R^4 group is independently H or a (C_1-C_4) alkyl moiety.

37. The system of claim 33 wherein R^7 is cyclopentadienyl or a substituted cyclopentadienyl.

38. A chemical vapor deposition system comprising:

a deposition chamber having a semiconductor substrate or substrate assembly positional therein;

a vessel containing a precursor composition comprising one or more liquid complexes of the formula:



wherein:

M is a Group IVB, VB, or VIB metal;

each R^1 , R^2 , R^3 , and R^4 independently H or a $(C_1 - C_{30})$ organic group;

each L is independently CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 , wherein each R^5 , R^6 , and R^7 group is independently an organic group;

$x = 1$ to 4; and

$y = 1$ to 4.

APPENDIX II - CITED AUTHORITIES AND DOCUMENTS

Serial No.: 09/865,612

Docket No.: 150.00810102

1. M.P.E.P. §706.02, Eighth Edition, Revision 1 (February 2003).
2. M.P.E.P. §2115, Eighth Edition, Revision 1 (February 2003).
3. *In re Otto*, 312 F.2d 937, 136 USPQ 458 (CCPA 1963).
4. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989).
5. U.S. Pat. No. 6,281,124 (Vaartstra).
6. U.S. Pat. No. 6,306,217 (Uhlenbrock et al.).
7. U.S. Pat. No. 6,328,804 (Murzin et al.).
8. U.S. Pat. No. 6,444,041 (Vaartstra).
9. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987).
10. *In re Young*, 75 F.2d 996 (CCPA 1935).

CFR 1.116(b) and (c), even if the appeal is in reply to a non-final Office action.

REJECTIONS IN STATUTORY INVENTION REGISTRATIONS

See MPEP Chapter 1100 for rejection of claims in an application for a Statutory Invention Registration.

706.01 Contrasted With Objections

The refusal to grant claims because the subject matter as claimed is considered unpatentable is called a "rejection." The term "rejected" must be applied to such claims in the examiner's action. If the form of the claim (as distinguished from its substance) is improper, an "objection" is made. An example of a matter of form as to which objection is made is dependency of a claim on a rejected claim, if the dependent claim is otherwise allowable. See MPEP § 608.01(n). The practical difference between a rejection and an objection is that a rejection, involving the merits of the claim, is subject to review by the Board of Patent Appeals and Interferences, while an objection, if persisted, may be reviewed only by way of petition to the Commissioner.

Similarly, the Board will not hear or decide issues pertaining to objections and formal matters which are not properly before the Board. These formal matters should not be combined in appeals to the Board.

706.02 Rejection on Prior Art [R-1]

35 U.S.C. 102. Conditions for patentability; novelty and loss of right to patent.

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

**>

(e) the invention was described in — (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language; or<

(f) he did not himself invent the subject matter sought to be patented, or

(g)(1)during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. 103. Conditions for patentability; non-obvious subject matter.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b)(1)Notwithstanding subsection (a), and upon timely election by the applicant for patent to proceed under this subsection, a biotechnological process using or resulting in a composition of matter that is novel under section 102 and nonobvious under subsection (a) of this section shall be considered nonobvious if-

(A) claims to the process and the composition of matter are contained in either the same application for patent or in separate applications having the same effective filing date; and

(B) the composition of matter, and the process at the time it was invented, were owned by the same person or subject to an obligation of assignment to the same person.

(2) A patent issued on a process under paragraph (1)-

(A) shall also contain the claims to the composition of matter used in or made by that process, or

(B) shall, if such composition of matter is claimed in another patent, be set to expire on the same date as such other patent, notwithstanding section 154.

(3) For purposes of paragraph (1), the term "biotechnological process" means-

(A) a process of genetically altering or otherwise inducing a single- or multi-celled organism to-

- (i) express an exogenous nucleotide sequence,
- (ii) inhibit, eliminate, augment, or alter expression of an endogenous nucleotide sequence, or
- (iii) express a specific physiological characteristic not naturally associated with said organism;

(B) cell fusion procedures yielding a cell line that expresses a specific protein, such as a monoclonal antibody; and

(C) a method of using a product produced by a process defined by subparagraph (A) or (B), or a combination of subparagraphs (A) and (B).

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

By far the most frequent ground of rejection is on the ground of unpatentability in view of the prior art, that is, that the claimed subject matter is either not novel under 35 U.S.C. 102, or else it is obvious under 35 U.S.C. 103. The language to be used in rejecting claims should be unequivocal. See MPEP § 707.07(d).

CHOICE OF PRIOR ART; BEST AVAILABLE

Prior art rejections should ordinarily be confined strictly to the best available art. Exceptions may properly be made, for example, where:

(A) the propriety of a 35 U.S.C. 102 or 103 rejection depends on a particular interpretation of a claim;

(B) a claim is met only in terms by a reference which does not disclose the inventive concept involved; or

(C) the most pertinent reference seems likely to be antedated by a 37 CFR 1.131 affidavit or declaration.

Such rejections should be backed up by the best other art rejections available. Merely cumulative rejections, i.e., those which would clearly fall if the primary rejection were not sustained, should be avoided.

See also MPEP § 707.05.

>RELIANCE UPON ABSTRACTS AND FOREIGN LANGUAGE DOCUMENTS IN SUPPORT OF A REJECTION

Prior art uncovered in searching the claimed subject matter of a patent application often includes English language abstracts of underlying documents, such as technical literature or foreign patent documents which may not be in the English language. When an abstract is used to support a rejection, the evidence relied upon is the facts contained in the abstract, not additional facts that may be contained in the underlying full text document. Citation of and reliance upon an abstract without citation of and reliance upon the underlying scientific document is generally inappropriate where both the abstract and the underlying document are prior art. See *Ex parte Jones*, 62 USPQ2d 1206, 1208 (Bd. Pat. App. & Inter. 2001) (unpublished).

To determine whether both the abstract and the underlying document are prior art, a copy of the underlying document must be obtained and analyzed. If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection. The record must also be clear as to whether the examiner is relying upon the abstract or the full text document to support a rejection. The rationale for this is several-fold. It is not uncommon for a full text document to reveal that the document fully anticipates an invention that the abstract renders obvious at best. The converse may also be true, that the full text document will include teachings away from the invention that will preclude an obviousness rejection under 35 U.S.C. 103, when the abstract alone appears to support the rejection. An abstract can have a different effective publication date than the full text document. Because all patentability determinations are fact dependent, obtaining and considering full text documents at the earliest practicable time in the examination process will yield the fullest available set of facts upon which to determine patentability, thereby improving quality and reducing pendency.

When both the abstract and the underlying document qualify as prior art, the underlying document should normally be used to support a rejection. In limited circumstances, it may be appropriate for the

examiner to make a rejection in a non-final Office action based in whole or in part on the abstract only without relying on the full text document. In such circumstances, the full text document and a translation (if not in English) may be supplied in the next Office action. Whether the next Office action may be made final is governed by MPEP § 706.07(a).<

REEXAMINATION

For scope of rejections in reexamination proceedings see MPEP § 2258.

DISTINCTION BETWEEN 35 U.S.C. 102 AND 103

The distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words, for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims. The modification must be one which would have been obvious to one of ordinary skill in the art at the time the invention was made. See MPEP § 2131 - § 2146 for guidance on patentability determinations under 35 U.S.C. 102 and 103.

DETERMINING THE EFFECTIVE FILING DATE OF THE APPLICATION

The effective filing date of a U.S. application may be determined as follows:

(A) If the application is a continuation or divisional of one or more earlier U.S. applications >or international applications< and if the requirements of 35 U.S.C. 120 >and 365(c), respectively,< have been satisfied, the effective filing date is the same as the earliest filing date in the line of continuation or divisional applications.

(B) If the application is a continuation-in-part of an earlier U.S. application >or international application<, any claims in the new application not supported

by the specification and claims of the parent application have an effective filing date equal to the filing date of the new application. Any claims which are fully supported under 35 U.S.C. 112 by the earlier parent application have the effective filing date of that earlier parent application.

(C) If the application claims foreign priority under 35 U.S.C. 119(a)-(d) >or 365(a)<, the effective filing date is the filing date of the U.S. application, unless situation (A) or (B) as set forth above applies. The filing date of the foreign priority document is not the effective filing date, although the filing date of the foreign priority document may be used to overcome certain references. See MPEP § 706.02(b) and § 2136.05.

(D) If the application **>properly claims benefit< under 35 U.S.C. 119(e) *>to< a provisional application, the effective filing date is the filing date of the provisional application >for any claims which are fully supported under the first paragraph of 35 U.S.C. 112 by the provisional application.<

See MPEP § 1893.03(b) for determining the effective filing date of an application * under 35 U.S.C. 371. See MPEP § 201.11(a) and § 1895 for >additional information on< determining the effective filing date of a continuation, divisional, or continuation-in-part of a PCT application designating the U.S. See also MPEP § 1895.01 and § 1896 which discuss differences between applications filed under 35 U.S.C. 111(a) and >international applications that enter national stage under< 35 U.S.C. 371.

706.02(a) Rejections Under 35 U.S.C. 102(a), (b), or (e); Printed Publication or Patent [R-1]

Once the examiner conducts a search and finds a printed publication or patent which discloses the claimed invention, the examiner should determine whether the rejection should be made under 35 U.S.C. 102(a), (b), or (e).

In order to determine which section of 35 U.S.C. 102 applies, the effective filing date of the application must be determined and compared with the date of the reference. See MPEP § 706.02 regarding determination of effective filing date of the application.

2115 Material or Article Worked Upon by Apparatus

MATERIAL OR ARTICLE WORKED UPON DOES NOT LIMIT APPARATUS CLAIMS

“Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

In *In re Young*, a claim to a machine for making concrete beams included a limitation to the concrete reinforced members made by the machine as well as the structural elements of the machine itself. The court held that the inclusion of the article formed within the body of the claim did not, without more, make the claim patentable.

In *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967), an apparatus claim recited “[a] taping machine comprising a supporting structure, a brush attached to said supporting structure, said brush being formed with projecting bristles which terminate in free ends to collectively define a surface to which adhesive tape will detachably adhere, and means for providing relative motion between said brush and said supporting structure while said adhesive tape is adhered to said surface.” An obviousness rejection was made over a reference to Kienzle which taught a machine for perforating sheets. The court upheld the rejection stating that “the references in claim 1 to adhesive tape handling do not expressly or impliedly require any particular structure in addition to that of Kienzle.” The perforating device had the structure of the taping device as claimed, the difference was in the use of the device, and “the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.”

Note that this line of cases is limited to claims directed to machinery which works upon an article or material in its intended use. It does not apply to product claims or kit claims (i.e., claims directed to a plurality of articles grouped together as a kit).

2116 Material Manipulated in Process

The materials on which a process is carried out must be accorded weight in determining the patentability of a process. *Ex parte Leonard*, 187 USPQ 122 (Bd. App. 1974).

2116.01 Novel, Unobvious Starting Material or End Product

All the limitations of a claim must be considered when weighing the differences between the claimed invention and the prior art in determining the obviousness of a process or method claim. See MPEP § 2143.03.

In *re Ochiai*, 71 F.3d 1565, 37 USPQ2d 1127 (Fed. Cir. 1995) and *In re Brouwer*, 77 F.3d 422, 37 USPQ2d 1663 (Fed. Cir. 1996) addressed the issue of whether an otherwise conventional process could be patented if it were limited to making or using a nonobvious product. In both cases, the Federal Circuit held that the use of *per se* rules is improper in applying the test for obviousness under 35 U.S.C. 103. Rather, 35 U.S.C. 103 requires a highly fact-dependent analysis involving taking the claimed subject matter as a whole and comparing it to the prior art. To support a rejection under 35 U.S.C. 103, the collective teachings of the prior art must have suggested to one of ordinary skill in the art that, at the time the invention was made, applicant’s claimed invention would have been obvious. In applying this test to the claims on appeal in *Ochiai* and *Brouwer*, the court held that there simply was no suggestion or motivation in the prior art to make or use novel, nonobvious products in the claimed processes. Consequently, the court overturned the rejections based upon 35 U.S.C. 103.

Interpreting the claimed invention as a whole requires consideration of all claim limitations. Thus, proper claim construction requires treating language in a process claim which recites the making or using of a nonobvious product as a material limitation. Motivation to make or use the nonobvious product must be present in the prior art for a 35 U.S.C. 103 rejection to be sustained. The decision in *Ochiai* specifically dispelled any distinction between processes of making a product and methods of using a product with regard to the effect of any product limitations in either type of claim.

parent application, that a precise starting material is not identified and noted the examiner's comment that said paragraph fails to disclose the unsaturation present in the starting material while observing that the appealed claims require a double bond between the 4 and 5 positions. We think the board was correct in finding a lack of support for the appealed claims in the parent application.

The several articles and the text relied upon by the appellant do not, in our opinion, overcome the insufficiency of the disclosure in the parent case with respect to the foregoing matters.

The foregoing considerations lead us to the conclusion that the invention disclosed in the appealed application was not in fact sufficiently disclosed in the parent application "in the manner provided in the first paragraph of section 112 of this title" to entitle appellant to rely on 35 U.S.C. § 120 to antedate the Colton et al. reference. For this reason, *and this reason only*, we *affirm* the decision of the board.

Affirmed.



50 CCPA

Application of Carl Louis OTTO, Lanelle Burnham Otto and Joan Briton.

Patent Appeal No. 6901.

United States Court of Customs and Patent Appeals.

Feb. 13, 1963.

Proceeding, at Serial No. 512,520, on application for patent for hair curlers. On an appeal from decision of the Patent Office Board of Appeals affirming the Primary Examiner's rejection of the

312 F.2d—594a

claims in controversy, the Court of Customs and Patent Appeals, Martin, J., held that the claims were properly rejected as unpatentable.

Affirmed.

1. Patents ⇐33

On question of patentability of hair curlers the claims of which were directed to device and method of making device and not to method of curling hair wherein device was used, process of curling hair was irrelevant insofar as determination of whether claims were to be allowed or rejected.

2. Patents ⇐16.14

Claims of application for patent for hair curlers directed to method of making device were unpatentable for want of invention.

Clarence M. Fisher, Pennie, Edmonds, Morton, Barrows & Taylor, Washington, D. C. (John T. Roberts, Washington, D. C., of counsel), for appellants.

Clarence W. Moore, Washington, D. C. (Joseph F. Nakamura, Washington, D. C., of counsel), for Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Judges.

MARTIN, Judge.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the Primary Examiner's rejection of claims 1-4 of appellants' application Ser. No. 512,520 filed June 1, 1955 for HAIR CURLERS FOR PERMANENT WAVING AND MANUFACTURE THEREOF.

Claims 1 and 4, illustrative of the appealed claims, read:

"1. As a new article of manufacture, a core member for hair curlers comprising a body of elastically

resilient foam material, the hair being wound directly on said body and said body carrying a hair waving lotion in non-liquid form distributed in the pores of the material.

"4. The method of making a core member of the character described for hair curlers which comprises providing a body of elastically resilient foam material, saturating the body with a hair waving lotion con-

sisting of a water-soluble solution of saponified material and thereafter permitting the saturated body to dry, whereby to produce a body the pores of which are substantially impregnated with a waving solution in non-liquid form adapted to be activated by subsequent wetting of the body."

The references relied on by the examiner and the board are:

Picard	1,219,147	Mar. 13, 1917
Banigan et al.	2,295,823	Sept. 15, 1942
Ramsey	2,418,664	Apr. 8, 1947
Moses	2,720,206	Oct. 11, 1955
Connolly	2,761,166	Sept. 4, 1956
Lyons	2,763,885	Sept. 25, 1956
L'Oreal (France)	966,988	Mar. 15, 1950"

Appellants' application relates to a core member for hair curlers. The body of the core member is made up of an elastically resilient foam material, e. g. a resinous polyurethane. It can be of any suitable shape, although the drawing shows it as cylindrical. A hair waving lotion, which may be a water-soluble mixture of thioglycolic acid and ammonia, in non-liquid form, is contained in the pores of the foam material. The lotion may be deposited by first saturating the core member with the lotion in solution form and thereafter permitting it to dry.

In use, the core member may have the tresses of hair wound on it while the core and hair are both dry. After the dry hair is wound on the dry core and fixed in place by appropriate retaining means, depending on the specific construction of the curler, the curler with the hair wound on it is then thoroughly wetted and manipulated by squeezing or twisting of the core member to force the lotion from the pores of the core member outwardly to saturate the hair wound on the curler.

The Moses patent discloses a hair curler provided with an absorbent pad member in the form of a cylinder of natural

sponge, viscose sponge or the like for holding a permanent wave solution to be squeezed out into the hair wound on the curler.

Each of the Connolly and Lyons patents relates to a core member of absorbent material provided with a dry dentifrice which is activated for use by contact with a liquid. Picard discloses a similar member impregnated with a dentifrice or antiseptic while Banigan et al. relates to sponges impregnated with numerous materials.

The Ramsey patent and the French patent to L'Oreal each discloses a cream for use in the permanent waving of hair. The cream comprises a base which may include an emulsifiable water-soluble mixture of thioglycolic acid and ammonia.

The examiner indicated that in the light of the teachings of Lyons, Picard, Connolly and Banigan et al. he did not see "that invention would be involved in providing the pores of a core, as shown in Moses, with a non-liquid lotion, to be activated by liquid at the time of use." The examiner further rejected the claims as unpatentable over any of Picard, Lyons and Banigan et al. in view of either Ramsey or L'Oreal taking the

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position that "it would not require invention to substitute the dry hair-waving compositions of either secondary reference for the dentifrice of each primary reference."

The board in affirming the rejection of the appealed claims stated:

"* * * We agree that the art used makes it obvious to incorporate in a sponge a material that has an unspecified degree of dryness (including the substantial degree of some of the art) that causes the material to be retained in the sponge and thus makes obvious doing this with hair waving material."

Appellants urge that the Moses core is not the article of manufacture which appellants claim. They contend that the Moses core is merely a wick inside of a perforated metal hair curler which when compressed will release liquid through the pores of the metal curler. Appellants also urge that the patents of Picard, Connolly and Lyons, which show a water-soluble dentifrice impregnated in a sponge body useful as a toothbrush and the Banigan et al. patent which mentions that artificial sponges may be impregnated with numerous materials "would not be reasonably expected to teach modifying the Moses curler." Appellants further contend that the cream lotion of Ramsey and L'Oreal will not work in their invention.

[1, 2] First of all it should be remembered that the claims are directed to a particular device and a method of making that device, not to a method of curling hair wherein this particular device is used. It seems appellants are endeavoring to predicate patentability upon a certain procedure for curling hair using this device and involving a number of steps in the process. This process is irrelevant as is the recitation involving the hair being wound around the core insofar as the determination of whether these particular claims should be allowed

or rejected. In re Lampert et al., 245 F.2d 253, 44 CCPA 958; In re Rishoi et al., 197 F.2d 342, 39 CCPA 1004; In re Mulholland, 129 F.2d 860, 29 CCPA 1222; In re Young, 75 F.2d 996, 22 CCPA 1060. It will be seen that the Lampert case pertains to the impropriety of relying on a method concept to distinguish a structural claim over the prior art and Rishoi and the others indicate that inclusion of the material or article worked upon by a structure being claimed does not impart patentability to the claims.

The particular device claimed is an elastically resilient "core member for hair curlers * * * carrying a hair waving lotion in non-liquid form distributed in the pores of the material." It should be noted at this point that no attaching means is recited in the claims.

Moses teaches a pad member which "is first charged with a curling liquid" to be inserted in a mandrel to be used for hair curling purposes. Picard, Banigan et al., Connolly and Lyons all teach impregnating sponge-like material with various substances for various purposes such as brushing teeth and polishing metalware. Connolly and Lyons teach impregnating a sponge-like material with dry substances to be activated by contact with a liquid. In view of these teachings we believe it would be within the skill of the art to apply those disclosures of Connolly and Lyons to Moses' pad. Since appellants' structure claims pertain only to a core or pad member and recite no means for attaching it to the hair, it is apparent that the invention does not distinguish over Moses' pad¹ in view of Connolly and Lyons insofar as the concept of impregnating the pores of a sponge-like pad with a dry substance, which pad is to be used in connection with hair curlers.

Appellants have never questioned that a hair curling composition, such as the water-soluble saponified thioglycolin-am-

plastic in lieu of Moses' sponge material and we see none.

1. There seems to be no contention on the part of appellants that patentability resides in the substitution of known foamed

monia mentioned in their application, can be provided in dry form. Therefore no issue arises with reference to that matter. However it should be noted that even though the creams of L'Oreal and Ramsey may contain ingredients of appellants' hair curling preparation, being in cream form, it would not be practicable to endeavor to impregnate a hair curling pad with them.

Although the structure claims do not recite any means by which the core member could be attached to the hair and thus the *manner* of its intended use is of no significance, it might be well to note that the Moses pad impregnated with a dry hair curling substance would be operable with a non-liquid solution. Thus the core could be used by dipping the mandrel containing the pad into water which would activate the hair curling substance in the pad and then the mandrel could be attached to the hair and the liquid would be squeezed from the pad through the perforations in the mandrel into the hair by means of the plunger activity associated with the locking device. There is no significance in the fact that the Moses pad would be moistened differently than appellants' since, as stated, methods are not involved here. For these reasons we affirm the rejection of claims 1, 2 and 3.

Coming to claim 4, the only aspect of the recited method which requires additional consideration reads:

" * * *, saturating the body with a hair waving lotion * * * and thereafter permitting the saturated body to dry, * * * adapted to be activated by subsequent wetting of the body."

It does not appear to us that it would be beyond the skill of an ordinary workman in this art who desires to impregnate a foam-like material with a liquid soluble substance to prepare that substance in liquid form then saturate the material with it. Upon the material and the substance becoming dry, the substance obviously would remain in the pores of the material until it is reactivated by being wetted. We feel certain

that this procedure takes place every day in the homes in this country where a housewife saturates a sponge with soapy water then permits the sponge to dry and, unless she has rinsed the sponge thoroughly, when she wets the sponge again the water squeezed therefrom will be soapy. For these reasons we affirm the rejection of claim 4.

In view of the foregoing we affirm the decision of the board.

Affirmed.



50 CCPA
REPUBLIC STEEL CORPORATION,
Appellant,

v.

M.P.H. MANUFACTURING CORPORATION, Inc., Appellee.

Patent Appeal No. 6869.

United States Court of Customs
and Patent Appeals.

Feb. 13, 1963.

An application for registration of the trademark "TRUSS-SKIN" for sheet metal structural members for prefabricated buildings was opposed by the owner of the registered trademark "TRUSCON" for steel building products. The Trademark Trial and Appeal Board, Opposition No. 39,080, entered a decision dismissing the opposition, and the opposer appealed. The United States Court of Customs and Patent Appeals, Almond, J., held that the trademark "TRUSS-SKIN" was readily distinguishable from the registered trademark "TRUSCON" and was registrable.

Decision of Trademark Trial and Appeal Board affirmed.

1 Trade Regulation §230

Court of Customs and Patent Appeals on appeal from decision of Trade-

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**DONALD G. RICHARDSON, Plaintiff/Appellant, v. SUZUKI MOTOR CO., LTD.
and U.S. SUZUKI MOTOR CORPORATION, Defendants/Cross-Appellants,
KAWASAKI HEAVY INDUST. LTD., KAWASAKI MOTORS CORP., YAMAHA
MOTOR CO., LTD., YAMAHA MOTOR CORP., U.S.A., KAYABA INDUSTRY
CO., LTD. and KAYABA INDUSTRY CO., Defendants**

Nos. 87-1497, 87-1498, 87-1502, 88-1083, 88-1084

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

868 F.2d 1226; 1989 U.S. App. LEXIS 1684; 9 U.S.P.Q.2D (BNA) 1913

February 16, 1989, Decided

SUBSEQUENT HISTORY:

As amended March 8, 1989; Rehearing Denied March 29, 1989.

PRIOR HISTORY:

[**1] Appealed from: U.S. District Court for the Central District of California, Judge Gray.

CASE SUMMARY

PROCEDURAL POSTURE: Parties appealed and cross-appealed from the judgment of the United States District Court for the Central District of California which involved issues of patent validity, infringement, breach of contract, fraud, misappropriation of trade secrets, and several related issues.

OVERVIEW: In an action involving patent validity, infringement, breach of contract, fraud, and misappropriation of trade secrets, jury verdicts held valid patent was infringed by defendant and majority of plaintiff's claims were not trade secrets. Both parties appealed. The court affirmed in part because a reasonable jury could have found patent was not invalid on grounds of anticipation since invalidity was not proved by clear and convincing evidence. Furthermore, on correct instructions no reasonable jury could have found claimed invention and accused structures were not equivalent, thus infringement was affirmed. Damages for patent infringement were vacated and remanded since improper instruction produced inadequate compensation. Order for new trial on trade secret violation was reversed since district court exceeded discretionary authority in vacating jury verdict and ordering new trial when

plaintiff had a prejudicially heavy burden of proving trade secrets. The denial injunction was reversed because irreparable harm was presumed with infringement.

OUTCOME: Judgment was affirmed, reversed, vacated, and remanded in part because patent was not proved invalid by clear and convincing evidence, irreparable harm existed with infringement, improper instruction produced inadequate damages, and new trial for defendant after plaintiff proved trade secrets under a prejudicially heavy burden was abuse of discretion.

CORE CONCEPTS

Civil Procedure : Jury Trials

Patent Law : Nonobviousness

A jury verdict on nonobviousness is at best advisory.

Civil Procedure : Jury Trials

Patent Law : Jurisdiction & Review

Use of an advisory jury is limited to actions not triable of right by a jury. In a similar circumstance wherein the trial court and the jury independently decided the same jury question, all fact findings of a jury are non-advisory, unless made in an area expressly removed from jury verdict.

Civil Procedure : Jury Trials

Patent Law : Novelty & Anticipation

Patent Law : Nonobviousness : Tests & Proof of Obviousness

The jury may decide the questions of anticipation and obviousness, either as separate special verdicts or en

route to a verdict on the question of validity, which may also be decided by the jury.

Civil Procedure : Jury Trials : Right to Jury Trial

Patent Law : Nonobviousness

No warrant appears for distinguishing the submission of legal questions to a jury in patent cases from such submissions routinely made in other types of cases. So long as the U.S. Const. amend. VII stands, the right to a jury trial should not be rationed, nor should particular issues in particular types of cases be treated differently from similar issues in other types of cases.

Civil Procedure : Jury Trials

Civil Procedure : Appeals : Standards of Review : Substantial Evidence Rule

The standards by which appellate courts review the judgment differ, depending on whether it arose from a jury or a bench trial. When the judgment arises from a jury verdict, the reviewing court applies the reasonable jury/substantial evidence standard: a standard that gives greater deference to the judgment simply because appellate review is more limited, compared with review of a trial judge's decision. The appellate court's function is exhausted when that evidentiary basis of the jury's verdict becomes apparent, it being immaterial that the court might draw a contrary inference or feel that another conclusion is more reasonable.

Patent Law : Infringement : Defenses

Invalidity must be proved by clear and convincing evidence, referring to the presumption of validity.

Patent Law : Novelty & Anticipation

An invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim. The identical invention must be shown in as complete detail as is contained in the patent claim.

Patent Law : Infringement : Burdens of Proof

Plaintiff bears the burden of proving infringement by a preponderance of the evidence.

Civil Procedure : Relief From Judgment : Motions for New Trial

Patent Law : Jurisdiction & Review

When faced with a claim that verdicts are inconsistent, the court must search for a reasonable way to read the verdicts as expressing a coherent view of the case, and must exhaust this effort before it is free to disregard the jury's verdict and remand the case for a new trial.

Civil Procedure : Relief From Judgment

Patent Law : Jurisdiction & Review : Standards of Review

The reviewing court is bound to find special verdicts consistent if it can do so under a fair reading of them. A fair reading of the special verdicts results from simply applying the rule that the consistency of the jury verdicts must be considered in light of the judge's instructions to the jury.

Civil Procedure : Jury Trials

The decision to submit interrogatories, and the precise language in which they are couched, can have an untoward effect on a verdict, if certain elements of the trial or the evidence are thereby overly emphasized in the jury's mind.

Patent Law : Specification & Claims

A device that embodies improvements on a claimed structure does not automatically avoid the reach of the claim. Each case must be decided on its particular facts, viewing the changes in the accused structure in light of the claimed invention.

Patent Law : Remedies : Damages

Patent Law : Jurisdiction & Review : Standards of Review

The court reviews an award for patent infringement damages on the reasonable jury/substantial evidence standard.

Patent Law : Jurisdiction & Review : Standards of Review

The court will reverse a judgment because of a mistake in jury instructions only if the error was prejudicial.

Patent Law : Remedies : Damages

35 U.S.C.S. § 284 provides that damages shall be adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer.

Civil Procedure : State & Federal Interrelationships : Application of State Law

Contracts Law : Performance & Conditions : Construction & Interpretation

In matters of contract law and interpretation the court applies the discernable law of the state.

Civil Procedure : Jury Trials : Jury Instructions

Civil Procedure : Appeals : Standards of Review

Instructions are reviewed to determine whether, viewing the jury instructions as a whole, the trial judge gave adequate instructions on each element of the case to ensure that the jury fully understood the issues.

Torts : Business & Employment Torts : Unfair Business Practices

The court affords protection against the use of plaintiff's trade secrets by those to whom they had been disclosed in confidence. Whether the idea was patented or not, plaintiff is entitled to such protection.

Torts : Business & Employment Torts : Unfair Business Practices

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article.

Torts : Business & Employment Torts : Unfair Business Practices

The burden of proof is placed on plaintiff to prove that his information met the legal requirements of a protectible trade secret. This in turn required either a covenant or a confidential relationship as a premise of relief.

Torts : Business & Employment Torts : Unfair Business Practices

It is not necessary in order that a process of manufacture be a trade secret that it be patentable or be something that could not be discovered by others by their own labor and ingenuity.

Torts : Business & Employment Torts : Unfair Business Practices

Secret formulas and processes are property rights which will be protected by injunction, not only as against those who attempt to disclose or use them in violation of confidential relations or contracts express or implied, but as against those who are participating in such attempt with knowledge of such confidential relations or contract, though they might in time have reached the same result by their own independent experiments or efforts.

Torts : Business & Employment Torts : Unfair Business Practices

Ninth Circuit law upholds trade secret status even had the same information been obtainable from other sources. Trade secrecy is not negated because defendant by an expenditure of effort might have collected the same information from sources available to the public.

Torts : Business & Employment Torts : Unfair Business Practices

Defendants cannot escape responsibility by showing that they have improved upon or modified the plaintiff's process; minor variations are to be expected.

Civil Procedure : Jury Trials***Civil Procedure : Appeals : Standards of Review******Torts : Business & Employment Torts : Unfair Business Practices***

In order to vacate the jury's verdict upholding trade secrets and grant a new trial thereon, the trial court must find that the jury's verdict is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial judge, a miscarriage of justice. It is insufficient that the district court would simply have reached a different verdict.

Civil Procedure : Relief From Judgment : Motions for New Trial***Civil Procedure : Appeals : Standards of Review : Abuse of Discretion***

The grant or denial of either a motion for a new trial or a motion to amend the judgment must be reviewed on the basis of a determination of whether the district court abused its discretion. Abuse of discretion may be established by showing that the district court either made an error of law, or a clear error of judgment, or made findings which were clearly erroneous.

Civil Procedure : Appeals : Reviewability

Absent formalities of post-trial motions, the court has no authority to review verdicts.

Civil Procedure : Appeals : Standards of Review

An appellate tribunal is abjured to determine whether a jury verdict can be sustained, on any reasonable theory. A successful party in the District Court may sustain its judgment on any ground that finds support in the record.

Patent Law : Remedies : Injunctions***Patent Law : Ownership & Transfer of Rights : Patents as Property***

Once infringement is established, it is contrary to the laws of property, of which the patent law partakes, to deny the patentee's right to exclude others from use of his property. 35 U.S.C.S. § 261.

Patent Law : Remedies : Injunctions

It is the general rule that an injunction will issue when infringement has been adjudged, absent a sound reason for denying it.

Patent Law : Remedies : Injunctions

In matters involving patent rights, irreparable harm has been presumed when a clear showing has been made of patent validity and infringement. This presumption

derives in part from the finite term of the patent grant, for patent expiration is not suspended during litigation, and the passage of time can work irremediable harm.

Civil Procedure : Relief From Judgment : Motions for New Trial

Civil Procedure : Jury Trials : Province of Court & Jury

Courts are not free to reweigh the evidence and set aside the jury verdict merely because the jury could have drawn different inferences or conclusions or because judges feel that other results are more reasonable.

Civil Procedure : Appeals : Reviewability

Civil Procedure : Jury Trials : Province of Court & Jury

The credibility of witnesses and the weight of the evidence are issues for the jury and are generally not subject to appellate review.

Torts : Damages : Punitive Damages

A jury assessment of punitive damages is not excluded in circumstances such as those where the jury expressly found fraud.

Torts : Damages : Punitive Damages

A breach of faith underlies every trade secret claim. However, establishing that breach alone is insufficient to warrant an award of punitive damages; one must also demonstrate that the defendant acted wantonly, willfully, or in reckless disregard of the plaintiff's rights.

Civil Procedure : Appeals : Standards of Review

Torts : Damages : Punitive Damages

The reviewing court gives the trial judge and jury wide discretion in assessing punitive damages.

Civil Procedure : Appeals : Standards of Review

Torts : Damages : Punitive Damages

A court will not overturn an award of punitive damages unless it appears that the jury was influenced by passion or prejudice.

Patent Law : Remedies

The presence of a further modification in one or two claims of a patent directed does not negate the imposition of an equitable remedy.

Patent Law : Remedies

Governments & Legislation : Courts : Authority to Adjudicate

The courts are not powerless to redress wrongful appropriation of intellectual property by those subject to the courts' jurisdiction.

Civil Procedure : Summary Judgment or Summary Adjudication : Summary Judgment Standard

To refuse to give an issue to the jury is to direct a verdict in favor of the opposing party. Thus the courts review the district court's ruling on the standard of whether the evidence permits only one reasonable conclusion after viewing the evidence in the light most favorable to the non-moving party and drawing all inferences in favor of that party.

Civil Procedure : Jury Trials : Province of Court & Jury

When trial is had to a jury, the issue should be decided by the jury.

COUNSEL:

Theresa A. Middlebrook, Wagner & Middlebrook, of Glendale, California, and Robert Driscoll, Driscoll & Tomich, of Glendale, California, argued for Plaintiff/Appellant. With them on the brief was John E. Wagner.

John A. Fogarty, Kenyon & Kenyon, of New York, New York, argued for Defendants/Cross-Appellants. With him on the brief were Richard S. Gresalfi and Dawn M. DiStefano. Also on the brief were Richard S. Rockwell, of Tustin, California, Duffern H. Helsing and Halina F. Osinski, of Santa Ana, California, of Counsel.

JUDGES:

Smith, Circuit Judges, Skelton, Senior Circuit Judge, and Newman, Circuit Judge.

OPINIONBY:

NEWMAN

OPINION:

[*1229] NEWMAN, Circuit Judge.

This appeal and cross-appeal are from the judgment of the United States District Court for the Central District of California, and involve issues of patent validity, infringement, breach of contract, fraud, misappropriation [*1230] of trade secrets, and several related issues. n1 We affirm in part, reverse in part, vacate in part, and remand.

n1 *Richardson v. Suzuki Motors Co. and Suzuki U.S. Motors Corp.*, Nos. CV 80-2589-WPG and CV 82-3826-WPG (C.D. Cal. June 29, 1987 and July 13, 1987).

[**2]

The Invention

The invention that led to this litigation is a motorcycle rear-wheel suspension system that smooths the ride over rough terrain, of interest particularly in off-road motorcycle riding. The roughness of the ride is due to bumps and dips in the terrain, transmitted from the wheels to the frame. An optimum rear-wheel suspension will maintain tire contact with the ground despite deflection by irregularities, will avoid "bottoming out" (an unsafe rising of the suspension), yet will achieve a smooth ride without reduction in safety. In 1974 even the best available suspensions did not maintain adequate tire contact with the ground in conjunction with attempts to eliminate bottoming out.

In mid-1974 Donald G. Richardson, a young mechanic in California, devised a solution to the problem, a modified suspension system that he installed in his own motocross motorcycle. Richardson replaced the conventional two-spring shock absorber suspension system with a system consisting of a single shock absorber plus a linkage consisting of a bell crank and connecting rod. This linkage generated a "rising rate" n2 -- a characteristic critical to the issue -- and produced a far superior ride, [**3] even as it eliminated the dangerous bottoming out. Richardson testified about his first ride, at a hilly construction site near his house, as "utopia. I mean it was incredible"; over hard bumps it was "uncanny because it was so smooth"; "the rear end didn't kick up. It just didn't bottom out and stayed down"; an "unbelievable feeling".

n2 "Rising rate" was described by witnesses as follows: "as the suspension travels upward, the resistance to upward travel will increase"; and it "gets stiffer as the wheel moves up toward the vehicle or moves upward in the frame."

On November 25, 1974 Richardson filed a United States patent application on his invention, and on September 23, 1975 the application issued as United States Patent No. 3,907,332 (hereinafter the '332 or Richardson patent). Patent claim 9, which incorporates claim 1, is the only claim in suit. Claims 1 and 9 follow:

1. A suspension for two wheeled vehicles comprising:
 - a frame for the vehicle comprising a generally closed shape including upper and lower portions and
 - a swing arm pivotally connected to the lower portion of said frame;

said swing arm comprising a pair of arms rotatably supporting a wheel about a horizontal [**4] axis generally at the end of said swing arm;

the pivotal mounting of said arm to said frame being about a generally horizontal axis whereby said wheel is both rotatable about its own horizontal axis and deflectable in a generally vertical direction about the axis of said swing arm;

spring means having a first end pivotally secured to said frame;

a link member including an intermediate point pivotally mounted on said frame about an axis, parallel to the axis of said swing arm at a point spaced therefrom;

pivotal connection means between said link member and the second end of said spring;

a bar pivotally connected at one end to said swing arm and at the opposite end to said link member at a position spaced from said spring connection;

said spring, bar, swing arm and link connected whereby deflection of said swing arm displaces said bar and rotates said link member to compress said spring.

9. The combination in accordance with claim 1 wherein said assembly provides a rising spring rate as a function of deflection of said swing arm.

Figure 2 of the '332 patent specification is illustrative:

[*1231] [SEE ILLUSTRATION IN ORIGINAL]

As the rear wheel is deflected upward by bumps in the terrain, [**5] the swing arm (32) that is pivotally connected at (34) to the motorcycle frame (21) rotates upward, pushing the compression rod (41) into the bell crank (42) that is pivotally secured (31) at its intermediate point to the motorcycle frame. The bell crank rotates on its pivot (31) and compresses, downward against the frame, a spring (46) that is pivotally connected at one end (45) to the bell crank, and at its other end (52) to the motorcycle frame. The interaction of these interconnected parts increases the force on the spring, increasing the rate of resistance to deflection of the wheel with increased movement of the wheel. This varying resistance is the "rising spring rate" of claim 9, and is illustrated in Figure 5 of the '332 patent:

[*1232] [SEE ILLUSTRATION IN ORIGINAL]

The Contract with Suzuki

In October 1978 Richardson entered into a one year Option and License Agreement with the Suzuki Motor Co., Ltd. of Japan ("Suzuki").

The Agreement gave Suzuki the exclusive right to test and evaluate Richardson's suspension, and the exclusive option to acquire an exclusive license to the '332 patent and Richardson's "proprietary technical information, know-how, inventions, and use data", [**6] collectively defined in the Agreement as the "Licensed Rights."

The Agreement required Richardson to disclose to Suzuki all technical information, know-how, inventions, use data and design specifications for his suspension, that he possessed or that he acquired during the option period. Suzuki agreed to preserve all such information in confidence, and not to use any of it "for any purpose other than to evaluate for commercial feasibility of manufacture and marketing during the Option Period." Suzuki agreed that this obligation of confidence continued if Suzuki did not exercise the option. Excepted from the confidentiality obligation was all information previously known to Suzuki or at any time generally known to the public.

The Agreement required Richardson to make prototypes of his suspension system for Suzuki's evaluation. Richardson installed his suspension in Suzuki's sample 1978 and 1979 model production motorcycles, and disclosed to Suzuki the technical information and know-how that he possessed, including improvements and other information that he developed during this period. He met frequently with Suzuki engineers and other Suzuki personnel in the United States and in Japan [**7] to communicate this information and generally to improve performance and to facilitate testing and evaluation.

There was testimony at trial of initial incredulity on the part of Suzuki engineers concerning Richardson's suspension, of Suzuki's past failures in designing a suspension with the desired characteristics, and of Suzuki's favorable response to the performance of Richardson's suspension. The evidence included internal Suzuki documents made while Suzuki was testing Richardson's suspension, stating that it would "take a long time", perhaps three years, for Suzuki to develop a satisfactory suspension.

In early 1979 Richardson and a colleague Cazort conceived an improvement in the linkage-generated rising rate suspension, which they called the "Alternate Shock Mount" and which they disclosed to Suzuki, accompanied by drawings and blueprints [*1233] made by Cazort. The difference from the structure described in the '332 patent is that in the Alternate Shock Mount the lower end of the spring is pivotally secured to the swing arm which is pivotally secured to the frame, instead of being pivotally secured directly to the frame, resulting in increased strength.

In May 1979 Richardson's first [**8] prototype for Suzuki, wherein Richardson, aided by Cazort, installed his suspension in a Suzuki 1978 production model, was successfully tested in Japan. Testimony at trial included statements attributed to Suzuki's test riders that they could see the bumps but not feel them, and other commentary evidencing a highly favorable reaction to Richardson's suspension.

It was a stipulated fact that after these tests Suzuki made the decision to place the linkage-generated rising rate suspension system into production, and started development work for this purpose.

On October 16, 1979 Suzuki filed a patent application in Japan. The corresponding United States patent, filed on October 8, 1980, claims the Alternate Shock Mount suspension as disclosed by Richardson, and also claims a modification made by Suzuki called the "criss-cross". Suzuki named two of its engineers, Hirohide Tamaki and Manabu Suzuki, as the inventors.

Suzuki twice requested and was granted one-month extensions of its Option and License Agreement with Richardson. In December 1979 Suzuki informed Richardson that it would not exercise the option.

In March 1980 Suzuki began competitive racing in the United States of Suzuki motorcycles [**9] using the Alternate Shock Mount suspension, which Suzuki named the "Full Floater". Suzuki met with marked racing success, the Full Floater receiving favorable publicity and high acclaim from the public. Extensive advertising was directed to the Full Floater rising rate suspension. The product achieved widespread commercial success.

Suzuki denied any obligation to Richardson.

Litigation

Richardson brought suit against Suzuki (Japan) and the U.S. Suzuki Motor Corporation in California state court, and was granted a preliminary injunction restraining the Suzuki companies from breach of the Option and License Agreement and requiring them to comply with the confidentiality terms thereof. At Suzuki's request the state court declined to enforce the injunction after U.S. Suzuki sued Richardson in federal court, seeking a declaratory judgment of invalidity and non-infringement of Richardson's '332 patent.

In 1982 Richardson filed a patent infringement action against the Suzuki companies and others. (Only the Suzuki companies remain as parties.) Richardson reasserted the state claims of breach of contract, breach of implied covenant of good faith and fair dealing, misappropriation of trade [**10] secrets, and fraud, and among other relief requested assignment of the patents obtained by Suzuki on the Alternate Shock Mount.

Suzuki counterclaimed for fraud and breach of contract by Richardson, based on asserted invalidity of the '332 patent.

The federal actions were consolidated and tried to a jury. After forty-seven days of a two-part trial the jury gave special verdicts on issues of liability and damages. The district court entered final judgment under Fed. R. Civ. P. 54(b) on the jury verdicts that the '332 patent was not invalid and was infringed by Suzuki, that nine of Richardson's eleven asserted trade secrets were not trade secrets, and that Richardson was not entitled to assignment of the Tamaki/Suzuki patents on the Alternate Shock Mount. The court also entered final judgment on the jury verdicts of damages for patent infringement and for Suzuki's use of certain of Richardson's information that the jury found were not trade secrets. The court denied prejudgment interest and attorney fees, and refused to grant an injunction.

The district court denied most of the parties' post-trial motions, but granted Suzuki's motion for a new trial on three issues that the jury had [**11] decided in favor of [*1234] Richardson, upholding two of the eleven asserted trade secrets, finding fraud on the part of Suzuki, and assessing damages for fraud. The district court then entered a supplemental final judgment for immediate appeal of the issues that the court intended to retry, and certified three specific questions on these and related issues.

I

Validity of Richardson's '332 Patent

Suzuki asserts on appeal the invalidity of claim 9 on grounds of anticipation (35 U.S.C. § 102) and obviousness (35 U.S.C. § 103).ⁿ³ The district court, stating that questions of patent validity must be decided by the court, told the jury that its verdicts on this issue were advisory. Nevertheless the court duly entered the jury verdicts, including the answer YES to the question: "Under the facts and law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?" The court entertained, and denied, post-trial motions for judgment n.o.v. and for a new trial on the question of validity. The court also independently decided the question, upholding validity of the '332 patent.

ⁿ³ The additional aspects of adequacy of disclosure (35 U.S.C. § 112) and unenforceability for inequitable conduct, both decided in favor of Richardson, have not been appealed.

[**12]

The record provided to us doesn't show the origin of this discredited procedure of advisory verdicts, or whether either party objected. In *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 895 n.5, 221 USPQ 669, 674 n.5, (Fed. Cir.), cert. denied, 469 U.S. 857, 83 L. Ed. 2d 120, 105 S. Ct. 187 (1984), we observed that:

The view suggested in *Sarkisian [v. Winn-Proof Corp.]*, 688 F.2d 647, 651, (9th Cir. 1982), cert. denied, 460 U.S. 1052, 103 S. Ct. 1499, 75 L. Ed. 2d 930 (1983)], that a jury verdict on nonobviousness is at best advisory, would make charades of motions for directed verdict or JNOV under Fed. R. Civ. P. 50 in patent cases. These motions apply only to *binding* jury verdicts. ...

Moreover, use of an advisory jury is limited to actions not triable of right by a jury.

(emphasis in original, citations omitted). In a similar circumstance wherein the trial court and the jury independently decided the same jury question (in that case the question of willfulness of infringement) we remarked that "all fact findings of a jury are non-advisory, unless made in an area expressly removed from jury verdict." *Shiley, Inc. v. Bentley Laboratories, Inc.*, 794 F.2d 1561, 1568, 230 USPQ 112, 115 (Fed. Cir. 1986), cert. [**13] denied, 479 U.S. 1087, 107 S. Ct. 1291, 94 L. Ed. 2d 148 (1987).

It is established that the jury may decide the questions of anticipation and obviousness, either as separate special verdicts or en route to a verdict on the question of validity, which may also be decided by the jury. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1547, 220 USPQ 193, 197 (Fed. Cir. 1983):

No warrant appears for distinguishing the submission of legal questions to a jury in patent cases from such submissions routinely made in other types of cases. So long as the Seventh Amendment stands, the right to a jury trial should not be rationed, nor should particular issues in particular types of cases be treated differently from similar issues in other types of cases.

See also, e.g., *Vieau v. Japax, Inc.*, 823 F.2d 1510, 1515, 3 USPQ2d 1094, 1098 (Fed. Cir. 1987); *Verdegaal Brothers Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1052 (Fed. Cir.), cert. denied, 484 U.S. 827, 108 S. Ct. 95, 98 L. Ed. 2d 56 (1987); *Data Line Corp. v. Micro Technologies, Inc.*, 813 F.2d

1196, 1200, 1 USPQ2d 2052, 2054 (Fed. Cir. 1987); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986); [*14] *DMI, Inc. v. Deere & Co.*, 802 F.2d 421, 425-27, 231 USPQ 276, 279-80 (Fed. Cir. 1986); *Mainland Industries, Inc. v. Standal's Patents Ltd.*, 799 F.2d 746, 747-48, 230 USPQ 772, 773 (Fed. Cir. 1986); *Trans-World Mfg. Corp. v. Al* [*1235] *Nyman & Sons, Inc.*, 750 F.2d 1552, 1560, 224 USPQ 259, 263 (Fed. Cir. 1984); *Quaker City Gear Works, Inc. v. Skil Corp.*, 747 F.2d 1446, 1454-55, 223 USPQ 1161, 1165-66 (Fed. Cir. 1984), cert. denied, 471 U.S. 1136, 86 L. Ed. 2d 694, 105 S. Ct. 2676 (1985); *Weinar v. Rollform Inc.*, 744 F.2d 797, 805, 223 USPQ 369, 372 (Fed. Cir. 1984), cert. denied, 470 U.S. 1084, 85 L. Ed. 2d 143, 105 S. Ct. 1844 (1985); *Perkin-Elmer Corp.*, 732 F.2d at 894-95, 221 USPQ at 674; *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ (BNA) 473, 477 (Fed. Cir. 1984); *Railroad Dynamics, Inc. v. A. Stucki Company*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 935 (Fed. Cir.), cert. denied, 469 U.S. 871, 83 L. Ed. 2d 150, 105 S. Ct. 220 (1984); *White v. Jeffrey Mining Mach. Co.*, 723 F.2d 1553, 1558, 220 USPQ 703, 705 (Fed. Cir. 1983) ("Submission of such a question of law [obviousness] to a jury, accompanied by appropriate instructions, is proper."), cert. denied, 469 U.S. 825, 83 L. Ed. 2d 49, 105 S. Ct. 104 (1984). See generally H.T. Markey in *On Simplifying Patent* [*15] *Trials*, 116 F.R.D. 369, 370 (1987) ("There is neither reason nor authority for employing in a patent trial procedures and practices different from those employed in any other civil trial. Indeed, reason and authority mandate the contrary.")

Although the district court and the jury reached the same result, the standards by which appellate courts review the judgment differ, depending on whether it arose from a jury or a bench trial. *District of Columbia v. Pace*, 320 U.S. 698, 701, 88 L. Ed. 408, 64 S. Ct. 406, (1944) ("findings of fact by an equity court and the verdict of a jury have from time immemorial been subject to different rules of finality"). When the judgment arises from a jury verdict, the reviewing court applies the reasonable jury/substantial evidence standard: a standard that gives greater deference to the judgment simply because appellate review is more limited, compared with review of a trial judge's decision. *Id.* at 702. As summarized in *Lavender v. Kurn*, 327 U.S. 645, 653, 90 L. Ed. 916, 66 S. Ct. 740, (1946), "the appellate court's function is exhausted when that evidentiary basis [of the jury's verdict] becomes apparent, it being immaterial that the court might draw a contrary inference or feel that another conclusion [*16] is more reasonable." See generally M.B. Louis, *Allocating Adjudicative Decision Making Authority Between the Trial and Appellate Levels: A Unified View of the Scope*

of Review, The Judge/Jury Question, and Procedural Discretion, 64 N.C. L. Rev. 993 (1986).

The parties do not take a position on the district court's procedure, but appear to recognize that the issue of validity was properly for jury determination, for neither party refers to the district court's explanation of its independent determination of the question of obviousness.

In the interest of reaching an end to this protracted litigation, we have reviewed the judgment on the terms on which it reaches us. We have determined first whether Suzuki met its burden of showing on appeal that no reasonable jury could have reached the verdict of "valid" on the evidence before it. *Allen Organ Co. v. Kimball Int'l, Inc.*, 839 F.2d 1556, 1566, 5 USPQ2d 1769, 1777 (Fed. Cir.), cert. denied, 488 U.S. 850, 109 S. Ct. 132, 102 L. Ed. 2d 104 (1988); *DMI, Inc. v. Deere & Co.*, 802 F.2d 421, 425, 231 USPQ 276, 278 (Fed. Cir. 1986); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 618-19, 225 USPQ 634, 636 (Fed. Cir.), cert. dismissed, [*17] 474 U.S. 976, 106 S. Ct. 340, 88 L. Ed. 2d 326 (1985). Then, on the premise that the parties may have waived their right to a jury trial on this question by failure to object to the district court's procedure, we have considered whether the district court's independent judgment of validity may be sustained, on the standards applicable thereto. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir.) (obviousness determination in bench trial reviewed as a question of law based on underlying facts), cert. denied, 481 U.S. 1052, 107 S. Ct. 2187, 95 L. Ed. 2d 843 (1987).

The court correctly instructed the jury that invalidity must be proved by clear and convincing evidence, referring to the presumption of validity. *Perkin-Elmer* [*1236] *Corp.*, 732 F.2d at 894, 221 USPQ at 674; *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 756 F.2d 1556, 1559, 225 USPQ 253, 255 (Fed. Cir. 1985); *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 771 (Fed. Cir.), cert. denied, 469 U.S. 821, 83 L. Ed. 2d 41, 105 S. Ct. 95 (1984).

A. Anticipation

The district court correctly instructed the jury that an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior [*18] art reference. Every element of the claimed invention must be literally present, arranged as in the claim. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771-72, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026, 79 L. Ed. 2d 687, 104 S. Ct. 1284 (1984). The identical invention must be shown in as complete detail

as is contained in the patent claim. *Jamesbury Corp.*, 756 F.2d at 1560, 225 USPQ at 256; *Connell*, 722 F.2d at 1548, 220 USPQ at 198.

As prior art, Suzuki relied on the motorcycle suspensions described in certain patents to Downs and Warner, and on the race car wheel suspensions described for Tyrrell and McLaren race cars in two Road and Track magazine articles. Witnesses explained to the jury the similarities and differences between the invention of the '332 patent and each prior art reference. For example, the Downs suspension has a spring element that is rigidly attached to the motorcycle frame and does not pivot as is required by claim 9 of the '332 patent. The Warner reference shows a suspension having a bell crank that is pivotally mounted to the motorcycle frame but not at an intermediate point, whereas Richardson [**19] requires a mid-point pivot of the bell crank to the frame. Neither Downs nor Warner describes a rising rate. The magazine articles describe a four wheel racing car suspension system having a linkage-generated variable rising rate incorporating a bell crank, but instead of the swing arm of Richardson's motorcycle suspension, the race car systems use an A-shaped arm mounted to the side of an upright wheel; and the bell crank and linkage in the race car system is located beside the wheel, rather than in front of the wheel as in Richardson's motorcycle system.

Witnesses testified that rising rate in motorcycles had previously been obtained only by progressively wound springs and gas operated shock absorbers. Suzuki argued that rising rate is inherent in the Downs and Warner motorcycle suspensions and expressly described for race cars in the magazine articles, and also that rising rate is merely a statement of function, and thus should not be a basis for distinction from the prior art.

The jury found that Downs did not "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent". For the Warner reference, the jury could not reach a unanimous verdict on this same [**20] question, but answered NO to the question whether "the respective elements of Warner function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results". The jury found that the race car suspensions did "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent", but did not reach a unanimous verdict as to whether they "function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results."

The jury had erroneously been instructed that anticipation may be shown by equivalents, a legal theory that is pertinent to obviousness under Section 103, not to anticipation under Section 102. *Lewmar Marine, Inc. v.*

Barient, Inc., 827 F.2d 744, 747-48, 3 USPQ2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007, 108 S. Ct. 702, 98 L. Ed. 2d 653 (1988); *Connell*, 722 F.2d at 1548, 220 USPQ at 198. The jury requested a definition of "equivalent" during its deliberations, and was given the Webster's dictionary definition "corresponding or virtually identical, especially in effect or function." This narrow definition, which does not accord with that of *Graver Tank & Mfg. Co.* [**21] v. *Linde Air [**1237] Products Co.*, 339 U.S. 605, 608, 94 L. Ed. 1097, 70 S. Ct. 854, (1950), may have minimized the legal error in the instructions. In any event, the erroneous inclusion of equivalents in the anticipation inquiry favored Suzuki. The jury nonetheless answered YES to the special verdict: "Under the facts and law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?"

On the totality of the evidence and in light of the jury instructions and answers, we conclude that a reasonable jury could have found that the patent was not invalid on grounds of anticipation. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673-74 (review of presumed jury finding that anticipation not proved, based on jury verdict of validity).

Reviewing the analysis and decision of the district court, based on the same prior art, we discern no clear error in the court's conclusion that claim 9 was not invalid.

We affirm that claim 9 was not proved invalid on the ground of anticipation.

B. Obviousness

The issue of obviousness was vigorously litigated, Suzuki relying on the same Downs and Warner patents and magazine articles. The record shows that there was extensive testimony concerning the [**22] differences between Richardson's suspension and the prior art. Suzuki argued at trial, and repeats on this appeal, that these differences are trivial mechanical expedients.

The jury, among its special verdicts on the *Graham* factors, found that a person of ordinary skill in the pertinent art could be any of: (1) a motorcycle mechanic without formal technical education, (2) a person with experience in working on suspension systems for racing automobiles, but without formal technical training, (3) suspension system instructors, (4) professional motorcycle riders, and (5) someone possessing above-average mechanical skills. Suzuki argues that such a person is of generally high mechanical skill, and to such a person Richardson's rising rate motorcycle suspension would have been an obvious "adaption" of the race car suspension systems, which "suggests itself quite plainly,

since Downs and Warner incorporate bell cranks in their respective suspensions."

The jury was unable to reach a unanimous verdict on the question of whether a person of the level of skill found by the jury, presented with the problem and being familiar with all the prior art including these four specific references, [**23] but unaware of Richardson's device, would be "led to do" what Richardson did. In response to the ultimate question, as we have observed, the jury reached the unanimous verdict that "Under the facts and law as you believe that you understand them", claim 9 was "valid". The district court entered judgment on the jury verdicts, independently held the patent valid, and denied Suzuki's motions for judgment n.o.v. and for a new trial on the issue of validity.

The question for the jury was whether the challenger met the burden of proving invalidity by clear and convincing evidence; and the question on review is whether reasonable jurors could have concluded that the challenger failed to meet that burden. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986); *Perkin-Elmer Corp.*, 732 F.2d at 894-95, 221 USPQ at 674. The jury's lack of unanimity on certain special verdicts can reasonably be taken to mean, as the district court held, that invalidity had not been proved by clear and convincing evidence.

Our review shows that there was substantial evidence on which reasonable jurors could have concluded that claim 9 had not been proved [**24] invalid for obviousness, and thus reached the verdict of "valid". Although the district court erred in its belief that obviousness could only be presented to the jury for an advisory verdict, we may view the court's agreement with the jury verdict of validity as supporting the court's denial of Suzuki's post-trial motions for judgment n.o.v. and for a new trial. *Perkin-Elmer Corp.*, 732 F.2d at 895, 221 USPQ at 674-75. However it is viewed procedurally, no reversible error [*1238] has been shown in the court's conclusion that obviousness had not been proved and that claim 9 was not invalid.

The judgment of validity is affirmed.

II

Infringement

Richardson bore the burden of proving infringement by a preponderance of the evidence. The district court correctly stated that the jury was the finder of the fact of infringement.

The jury rendered special verdicts as to the Suzuki motorcycles before it, Model M having the Richardson/Cazort Alternate Shock Mount and Model C

having the "criss-cross" connection added by Suzuki, as follows:

9(a). Do defendant Suzuki's motorcycles of the Model M type ... infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

9(b). Do defendant [**25] Suzuki's motorcycles of the Model C type ... infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

In subparts 9(a)(2) and 9(b)(2) of the special verdict the jury answered YES to the question whether the Suzuki motorcycles produce substantially the same rising rate as taught in Richardson's patent.

The principal question on appeal is the meaning and effect of the jury answers to subparts (1) of the special verdict, which were directed "in particular" to the Alternate Shock Mount and the criss-cross modifications:

9(a)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, bearing in mind that the bottom of the spring in the former is affixed to the swing arm rather than to the frame?

Answer: NO

9(b)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, in light of the "criss-cross" of the connecting rods and the bell crank in the defendant's model, as well as the spring attachment to the swing arm, as compared with the plaintiff's Claim 9?

Answer: NO

The district court entered judgment of infringement in favor of Richardson and denied post-trial motions by both sides, including a motion by Richardson to reopen [**26] the record in order to present evidence on the doctrine of equivalents. The district court stated that the jury verdicts mean that "infringement is limited to 'rising rate'" and that the Suzuki and Richardson linkages are not equivalent.

Suzuki argues that special verdicts 9(a)(1) and 9(b)(1) require judgment of non-infringement; or, as a minimum, that these verdicts are inconsistent with the verdicts of infringement in 9(a) and 9(b), such that a new

trial is required of the entire issue. Richardson states that the verdicts can be understood, when viewed in light of the jury instructions, in a way that supports the judgments of infringement. Suzuki did not request a new trial on the basis of inconsistent verdicts at the time the judgments were entered, while Richardson moved, unsuccessfully, to amend or delete verdicts 9(a)(1) and 9(b)(1). Each party asserts that any inconsistency should be resolved in its favor.

The Ninth Circuit, in accordance with the general rule, requires trial and appellate courts to seek reconciliation of apparently inconsistent verdicts:

When faced with a claim that verdicts are inconsistent, the court must search for a reasonable way to read the verdicts [**27] as expressing a coherent view of the case, and must exhaust this effort before it is free to disregard the jury's verdict and remand the case for a new trial.

Toner v. Lederle Laboratories, 828 F.2d 510, 512 (9th Cir. 1987), cert. denied, 485 U.S. 942, 108 S. Ct. 1122, 99 L. Ed. 2d 282 (1988) (citing *Gallick v. Baltimore & Ohio R.R.*, 372 U.S. 108, 119, 9 L. Ed. 2d 618, 83 S. Ct. 659, (1963), also citing *Atlantic & Gulf Stevedores, Inc. v. Ellerman Lines, Ltd.*, 369 U.S. 355, 364, 7 L. Ed. 2d 798, 82 S. Ct. 780, (1962) and *Blanton v. Mobil Oil Corp.*, 721 F.2d 1207, 1213, (9th Cir. 1983), cert. denied, 471 U.S. 1007, 85 L. Ed. 2d 166, 105 S. Ct. 1874 [**1239] (1985)). See also *Allen Organ Co.*, 839 F.2d at 1563, 5 USPQ2d at 1775 (the appellate court must make every effort to harmonize the jury's answers).

The district court did not find the special verdicts inconsistent, apparently in the belief that the jury limited infringement to the rising rate provision of claim 9 but not the other claim clauses. This accords with the court's statement to the jury that the infringement was "minor" because it was limited to the rising rate. This interpretation pleased neither party. If we have correctly understood it, it is incorrect as a matter of law.

"We are bound to find the special verdicts consistent [**28] if we can do so under a fair reading of them." *Toner*, 828 F.2d at 512. A fair reading of the special verdicts results from simply applying the rule that "the consistency of the jury verdicts must be considered in light of the judge's instructions to the jury". *Toner*, 828 F.2d at 512. The instructions on infringement, and the specific questions asked by special verdict, were designed to resolve the issues raised at trial. There was testimony on both sides of Suzuki's assertion that its suspension was not the same as Richardson's because it

produced a different rising rate. We referred *supra* to special verdicts 9(a)(2) and 9(b)(2):

9(a)(2). Does defendant's Model M produce rising rate substantially the same as the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

9(b)(2). Does defendant's Model C produce rising rate substantially the same as the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

Another special verdict in the infringement section asked the jury:

11. Does claim 9 of the Richardson Patent describe the invention of a rising rate in terms of what the invention will do rather than in terms of physical [**29] arrangement?

Answer: NO

We conclude that the answer "yes, with the rising rate" in verdicts 9(a) and 9(b) is the jury's response to Suzuki's argument, rather than as a finding that only the rising rate claim limitation, and no other, is embodied in the Suzuki suspensions.

We discern no support in the record for the district court's conclusion that verdicts 9(a) and 9(b) meant that the rising rate was the only area of infringement. Structure corresponding to every element of every clause of claims 1 and 9 was identified by witnesses as embodied in the accused motorcycles. There was no real dispute that of the nine or eleven elements in these claims (depending on how counted), all but one were literally present. The dispute centered on one element, the attachment of the spring in the claim clause "spring means having a first end pivotally secured to said frame", since this was the clause affected by the modifications of the Alternate Shock Mount and the criss-cross. In the Alternate Shock Mount, as we have discussed, the spring is pivotally secured to a swing arm that in turn is pivotally secured to the frame, instead of being pivotally secured directly to the frame as is shown in the [**30] '332 specification.

Richardson argues that the spring can be either directly or indirectly pivotally secured to the frame, without avoiding literal infringement of the claim. Richardson alternatively argues that on a correct definition of the doctrine of equivalents, citing *Graver*

Tank, 339 U.S. at 608, these securements are equivalent because the structures are substantially the same and perform substantially the same function in the same way.

The jury had been given the dictionary definition that "equivalent" means "corresponding or virtually identical, especially in effect or function". This definition was reinforced by the phrasing of verdicts 9(a)(1) and 9(b)(1), wherein the question itself instructed the jury on the difference between the linkages, while remaining silent on the similarities.

This presentation was highly prejudicial. Indeed, these verdicts well illustrate the truism that the way a question is [*1240] asked can direct the answer. "The decision to submit interrogatories, and the precise language in which they are couched, can have an untoward effect on a verdict, if certain elements of the trial or the evidence are thereby overly emphasized in the jury's mind." *Weinar* [**31] v. *Rollform Inc.*, 744 F.2d 797, 809, 223 USPQ 369, 376 (Fed. Cir. 1984), cert. denied, 470 U.S. 1084, 85 L. Ed. 2d 143, 105 S. Ct. 1844 (1985).

Further, and equally prejudicial, special verdicts 9(a)(1) and 9(b)(1) isolated this specific claim element so that it was removed from the perspective that is obtained only when the claimed invention is viewed in its entirety. See, e.g., *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363, 219 USPQ (BNA) 473, 482 (Fed. Cir. 1983). We recently reemphasized in *United States Steel Corp. v. Phillips Petroleum Co.*, 865 F.2d 1247 slip op. at 13-14 (Fed. Cir. 1989), in discussing *Graver Tank*, that there is no error in considering "the principle of the claimed invention".

A device that embodies improvements on a claimed structure does not automatically avoid the reach of the claim. See, e.g., *Atlas Powder Co. v. E. I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1580, 224 USPQ (BNA) 409, 417 (Fed. Cir. 1984) (separately patentable improvement may also be an equivalent under the doctrine of equivalents); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 703, 218 USPQ 965, 967-68 (Fed. Cir. 1983) (infringement not avoided [**32] "merely by adding elements"), cert. denied, 464 U.S. 1042, 79 L. Ed. 2d 171, 104 S. Ct. 707 (1984). Each case must be decided on its particular facts, viewing the changes in the accused structure in light of the claimed invention. See generally *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934-35, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987), cert. denied, 485 U.S. 961, 108 S. Ct. 1226, 99 L. Ed. 2d 426 (1988), and cert. denied, 485 U.S. 1009, 108 S. Ct. 1474, 99 L. Ed. 2d 703 (1988); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1569-70, 231 USPQ 833, 840 (Fed. Cir. 1986), reh'g

denied, 846 F.2d 1369, 6 USPQ2d 1886 (Fed. Cir. 1988).

We conclude that the jury verdicts, viewed in light of the instructions, held that the Suzuki motorcycles with a rising rate infringed claim 9. We also conclude that on correct instructions no reasonable jury could have found that the claimed invention and the accused structures are not equivalent, on the established facts of record, applying the correct law of *Graver Tank*. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252, 91 L. Ed. 2d 202, 106 S. Ct. 2505, (1986) ("The mere existence of a scintilla of evidence in support of the plaintiff's position will be insufficient; there must be evidence on which the jury could reasonably [**33] find for the plaintiff."); *Pullman-Standard v. Swint*, 456 U.S. 273, 291-92, 72 L. Ed. 2d 66, 102 S. Ct. 1781, (1982) ("where findings [by the district court] are infirm because of an erroneous view of the law, a remand is the proper course unless the record permits only one resolution of the factual issue"); *Dana Corp. v. IPC Limited Partnership*, 860 F.2d 415, 419, 8 USPQ2d 1692, 1696 (Fed. Cir. 1988) (when there are sufficient established facts of record, appellate court has discretion to determine the merits of JNOV motion.)

The jury verdicts of infringement are supported by substantial evidence, and are upheld. The judgment of infringement is affirmed.

III

Damages for Patent Infringement

As damages for patent infringement the jury assessed a royalty of fifty cents per motorcycle. Richardson states that this royalty is unreasonably low, and resulted from erroneous and prejudicial jury instructions. We review the award on the reasonable jury/substantial evidence standard. *Shatterproof Glass Corp.*, 758 F.2d at 627-28, 225 USPQ at 643-44.

The court told the jury: "Now, I will sustain, I will uphold your verdict [of infringement], but in determining damages and determining any royalty, it seems to me [**34] that you must consider that the infringement was a relatively minor infringement." [*1241] This instruction derived, as we have discussed, from the erroneous interpretation of the verdicts as limited to the "rising rate" clause. We must determine whether this erroneous instruction was prejudicial to the jury's assessment of damages. The Ninth Circuit has stated that "we will reverse a judgment because of a mistake in jury instructions only if the error was prejudicial." *Smiddy v. Varney*, 665 F.2d 261, 265 (9th Cir. 1981), cert. denied, 459 U.S. 829, 74 L. Ed. 2d 66, 103 S. Ct. 65 (1982).

35 U.S.C. § 284 provides that damages shall be "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of

the invention by the infringer". *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d 1568, 1574, 7 USPQ2d 1606, 1612 (Fed. Cir. 1988). The jury was told that a royalty of \$ 2.00 per motorcycle with an annual minimum of \$ 70,000 had been agreed to by Suzuki and Richardson in the Option and License Agreement. There was testimony of much higher royalties paid by others for similar contributions to motorcycles. Suzuki presented testimony that the \$ 2.00 in the agreement [**35] does not apply, but should be the starting point for reducing the royalty because the infringement was minor.

We must assume that the jury followed the court's instruction that the infringement was minor. That instruction was a misinterpretation of the jury verdict of infringement, and it usurped the role of the jury. Absent this prejudicial instruction there was no reasonable basis on which reasonable jury could have found that fifty cents was a reasonable royalty.

The judgment of damages for patent infringement is vacated. We remand for retrial of the question.

IV

Richardson's Technical Information

Issues relating to Richardson's technical information were presented at trial on the legal theories of breach of contract and the tort of misappropriation of trade secrets. The district court concentrated the tort issues in presentation to the jury, apparently accepting Suzuki's position that it had complied with its contractual obligations to Richardson. The court thus required that Richardson prove the existence of legally protectible trade secrets and their misappropriation by Suzuki.

In the only special verdict on the contract issues, the jury found that Suzuki did not violate its [**36] duty of good faith and fair dealing in its relationship with Richardson. The jury instructions on the contractual relationship, however, are pertinent to, and intertwined with, the trade secret issues.

A. The Contractual Relationship

In matters of contract law and interpretation we apply the discernable law of the state of California. *Universal Gym Equipment, Inc. v. ERWA Exercise Equipment Ltd.*, 827 F.2d 1542, 1550, 4 USPQ2d 1035, 1040 (Fed. Cir. 1987). At trial Richardson pressed, unsuccessfully, the California law that a covenant of good faith and fair dealing is implied between parties to a contract. *Seaman's Direct Buying Service, Inc. v. Standard Oil Co.*, 36 Cal. 3d 752, 768, 686 P.2d 1158, 1166, 206 Cal. Rptr. 354, 363 (1984) ("It is well settled that, in California, the law implies in every contract a

covenant of good faith and fair dealing." (Emphasis in original)).

The contract between Richardson and Suzuki was explained at trial, including the clause wherein Suzuki agreed not to use or disclose the "technical information, know-how, inventions, use data, and design specifications" that it received from Richardson. In discussing whether Suzuki was restrained [**37] in its post-contract use of Richardson's information, the district court at first instructed the jury that Suzuki was entitled by law "to use the most efficient means, even though they got it from plaintiff", stating that only "valid trade secrets" were subject to the contractual restraints:

And then after Suzuki's election not to take a license, of course, they were not supposed to use the plaintiff's trade secrets. That's what the contract says. And once again, you're going to have to determine whether these eleven were valid [*1242] trade secrets. To what extent did the defendant use them, to what extent would the defendant otherwise have developed them.

Now, some of these trade secrets refer to the best alignments and designs. Well, it seems incongruous to say to the defendant they cannot use the best because the best was intentionally disclosed by the plaintiff, and even though experimentation by the defendant surely would have revealed the best as the patent says that it would.

Were the defendants precluded from using the best or were they obliged to use something less efficient. I can't conceive of the defendants not being entitled to use the most efficient means, even though they [**38] got it from the plaintiff.

The court later qualified this position by referring to reverse engineering as being improper -- although it is far from clear what a reasonable jury would have understood from the court's instructions:

But on further reflection, I have to acknowledge that if you find there was a confidential relationship or contract that prohibited Suzuki from using the plaintiff's trade secrets, technical information or know-how, inventions or use data that the plaintiff gave them, unless it exercised the option, if you find those things to be true, I suppose it would be improper for Suzuki to reverse engineer from Richardson's prototypes, or from trade secrets or other information that he gave them.

The defense of reverse engineering does not apply to information received in confidence or whereas here the information is given under a contract.

Reviewing these instructions in the context of the contract and trade secret questions that were before the jury, we conclude that the jury was incorrectly instructed on the law. See *Bulgo v. Munoz*, 853 F.2d 710, 714 (9th Cir. 1988) (quoting *Los Angeles Memorial Coliseum Comm'n v. National Football League*, 726 F.2d 1381, [*39] 1398 (9th Cir.), cert. denied, 469 U.S. 990, 105 S. Ct. 397, 83 L. Ed. 2d 331 (1984)) (instructions reviewed to determine "whether, viewing the jury instructions as a whole, the trial judge gave adequate instructions on each element of the case to ensure that the jury fully understood the issues.")

In *Universal Gym Equipment*, 827 F.2d at 1549, 4 USPQ2d at 1040, we affirmed liability under California law based on breach of contract, when the parties contracted to limit the use by the recipient of "features, designs, technical information, or know-how" disclosed under the contract. We also affirmed that such a contractual arrangement is not incompatible with the patent law, *id.* at 1550, 4 USPQ2d at 1041, an issue on which the district court in Richardson's case also appears to have been misled, and to have misled the jury. See *Components for Research, Inc. v. Isolation Products, Inc.*, 241 Cal. App. 2d 726, 730, 50 Cal. Rptr. 829, 832 (1966) ("The judgment here but affords protection against the use of plaintiff's trade secrets by those to whom they had been disclosed in confidence. Whether the idea was patented or not, plaintiff is entitled to such protection").

The district court erred [*40] in law, in limiting the scope of protected information beyond that set forth in the contract, and in its instructions to the jury as to Suzuki's obligations. These errors are reflected in the trade secret issues.

B. The trade secret issues

The jury, despite the excessively restrictive instructions on what were trade secrets, found that certain items that Suzuki had received from Richardson were trade secrets and had been misappropriated, and assessed damages therefor. The jury also assessed damages for use by Suzuki of certain other items that did not "rise to the dignity of trade secrets", in the words of the special verdicts.

Richardson specified eleven items that he had disclosed to Suzuki under the contract, and that he asserted to be trade secrets; to wit: (1) the optimal characteristics of a motorcycle rear-wheel suspension shock absorber, showing three external adjustments, (2) engineering drawings of his proposed and furnished suspension systems, [*1243] (3) 1978 and 1979 Suzuki motorcycles modified by Richardson with his rising rate suspension, (4) specific force-velocity curves needed to obtain the advantages of Richardson's invention in

Suzuki's motorcycles, (5) design modifications [*41] to extend rear wheel travel over earlier rising-rate designs, (6) design of the Alternate Shock Mount including drawings and knowhow, (7) the optimum use and types of certain bearings in the suspension, (8) motorcycle testing and tuning criteria, (9) his bell crank designs and design criteria, (10) adjustments in the angles and dimensions of the parts of the suspension and their effect on performance, and (11) the straight line tubular motorcycle frame.

The California law of trade secrets follows the Restatement definition:

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. ... Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article.

By-Buk Co. v. Printed Cellophane Tape Co., 163 Cal. App. 2d 157 at 166, 329 P.2d 147 at 152, 118 USPQ 550 at 553 (1958), citing Restatement (First) of Torts, § 757 comment b (1939). The court in *By-Buk Co.* reaffirmed "plaintiff's right not to have its [trade secret] processes wrongfully disclosed to others and used to its detriment." *Id.* at 167, [*42] 329 P.2d at 153, 118 USPQ at 553.

The burden of proof was placed on Richardson to prove that his information met the legal requirements of a protectible trade secret. *Forro Precision, Inc. v. International Business Machines Corp.*, 673 F.2d 1045, 1056-57, 215 USPQ 299, 305-6 (9th Cir. 1982). This in turn required "either a covenant or a confidential relationship" as a premise of relief. *Futurecraft Corp. v. Clary Corp.*, 205 Cal. App. 2d 279, 283, 23 Cal. Rptr. 198, 207-208 (1962) (discussing elements of trade secret protection). Richardson met this requirement through his contractual covenant.

The district court told the jury, several times, that because Suzuki might have developed or could have developed on its own the information it received from Richardson, such information can not be protected as a trade secret. The court said: "Now I think we must assume that the defendant could have accomplished whatever the plaintiff may have contributed toward the development of Models M and C." Whatever the validity of the proposed assumption as to Suzuki's abilities, the court's conclusion is contrary to California law:

It is not necessary in order that a process [*43] of manufacture be a trade secret that it be patentable or be

something that could not be discovered by others by their own labor and ingenuity.

By-Buk Co., 163 Cal. App. 2d at 166, 329 P.2d at 152, 118 USPQ at 553. Nor does the possibility of independent discovery relieve Suzuki of liability:

"Secret formulas and processes *** are property rights which will be protected by injunction, not only as against those who attempt to disclose or use them in violation of confidential relations or contracts express or implied, but as against those who are participating in such attempt with knowledge of such confidential relations or contract, though they might in time have reached the same result by their own independent experiments or efforts."

Id. at 167, 329 P.2d at 153, 118 USPQ at 553-54 (quoting *Herold v. Herold China & Pottery Co.*, 257 F. 911, 913 (6th Cir. 1919)). Indeed, Suzuki did not argue that it had actually developed on its own the information that it first received from Richardson. Although Richardson adduced evidence that Suzuki had been unable to solve this problem, it is not relevant what Suzuki might have been able to do on its own. Ninth Circuit law [***44] upholds trade secret status even had the same information been obtainable from other sources. *Clark v. Bunker*, 453 F.2d 1006, 1010, 172 USPQ (BNA) 420, 423 (9th Cir. 1972) (trade secrecy "is not negated because defendant by an expenditure of effort might have collected the [*1244] same information from sources available to the public.") (footnote omitted).

The court also erroneously instructed the jury that "slavish" copying is necessary for misappropriation, and that an exercise of independent judgment would remove the information from protection. The court instructed the jury to consider: "Were they secrets. And, second, did the defendants slavishly use them or did they make up their own minds." These views are contrary to California law. "Defendants cannot escape responsibility by showing that they have improved upon or modified the plaintiff's process." *By-Buk Co.*, 163 Cal. App. 2d at 169, 329 P.2d at 154, 118 USPQ at 554. The court observed in *Sinclair v. Aquarius Electronics, Inc.*, 42 Cal. App. 3d 216, 222, 116 Cal. Rptr. 654, 659, 184 USPQ 682, 684 (1974) that minor variations are to be expected.

Suzuki argued to the jury, and repeats on appeal, that information [**45] that Richardson developed after issuance of the '332 patent, including the Alternate Shock Mount, is barred from trade secret status because it was generally disclosed in Richardson's patent or

known to the general public, or because it merely implements the patented invention.

The legal status of information and improvements made after a patent application has been filed is independent of the presence, or absence, of the patent application or ensuing patent. The information and improvements may be separately patentable; they may be preserved in confidence and disclosed only in accordance with agreement; and they are protected against misappropriation in accordance with the laws of contract and tort. The court misstated the law in telling the jury that the jury could decide whether Richardson could have both a valid patent and legal protection for later-developed information on the patented invention:

So on the one hand [Richardson] says the ordinary person skilled in the art can take this patent and use it and make a machine based upon it. But, on the other hand, he says, however, the experimentation and the ability to do this constitutes trade secrets for which you must pay me. [**46] Now, that constitutes a dilemma and it's up to you to determine the extent to which Mr. Richardson may claim as trade secrets things that the ordinarily prudent person skilled in the art should be able to do on his own.

The district court's phrase "should be able to do on his own" may explain its misperception of the law. It is not known what Suzuki was able to do on its own, for Suzuki not only sought Richardson's knowhow, improvements, data, and information, but also agreed to respect the confidentiality thereof. This information is intellectual property in the eyes of the law, and is protected in accordance with law. See generally *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 493, 40 L. Ed. 2d 315, 94 S. Ct. 1879 (1974). See also *Components for Research, Inc.*, 241 Cal. App. 2d at 730, 50 Cal. Rptr. at 832 (whether the product design was patented or not, plaintiff is entitled to trade secret protection for manufacturing process); *Sinclair*, 42 Cal. App. 3d at 225, 116 Cal. Rptr. at 660, 184 USPQ at 686 ("Trade secret law encourages invention in areas where patent law does not reach"). *Accord Thermotics, Inc. v. Bat-Jac Tool Co., Inc.*, 541 S.W.2d 255, 261, 193 USPQ 249, 253 (Tex. Civ. App. 1976) (post-patent [**47] improvement protectable under trade secret law); *Franke v. Wiltsehek*, 209 F.2d 493, 495, 99 USPQ (BNA) 431, 433 (2d Cir. 1953) (immaterial that defendants could have derived trade secrets from expired patent).

It is apparent that the court imposed a higher standard for trade secret status than is contained in California law. The court's instructions, commentary, and phrasing of the special verdicts not only placed a

prejudicially heavy burden on Richardson, but also demeaned the information itself.

Despite this prejudicial environment, the jury found that items 5 and 6 were trade secrets and had been misappropriated by Suzuki, and assessed damages therefore. The jury also found that items 1-4 and 7-11 were not trade secrets, and that for some but not all of these items compensation [*1245] should be awarded based on "benefit from the plaintiff's knowledge and from the time and effort expended by him".

The district court granted Suzuki's motion for a new trial with respect to items 5 and 6, and upheld the jury verdicts with respect to items 1-4 and 7-11.

C. The new trial of items 5 and 6

The grant of a new trial is ordinarily not reviewable, but on this issue the district court entered final [*48] judgment for purposes of appeal, and certified three questions. The first certified question is:

1. Were the plaintiff's asserted trade secrets Nos. 5 and 6: (a) Actually valid proprietary trade secrets, as the jury found and awarded very substantial royalties; or (b) Did the plaintiff's contributions in these respects represent no more than the services of a skilled mechanic, which readily could have been duplicated by the defendant, and which entitled the plaintiff only to quantum meruit compensation, as the court believes; or (c) Were the plaintiff's contributions no more than those contemplated under the option agreement and paid for by the defendant, as the defendant contends?

We respond to this question: From the record before us the jury verdict that items 5 and 6 met the requirements for trade secret protection was supported by the great weight of the evidence. Richardson and Cazort testified about the design modifications that were the subject of item No. 5 and the Alternate Shock Mount subject of item No. 6. The Alternate Shock Mount was considered sufficiently novel and valuable that Suzuki included it in a patent application filed in Japan and later in the United States. [*49] The record does not negate the jury's determination of the value of this information. According to California law it is immaterial what Suzuki could have done, for it chose to use Richardson's information, which it obtained under restraint.

In further response, we remark that the relation between the parties, set by contract, was a routine commercial arrangement wherein Richardson agreed to facilitate Suzuki's testing and evaluation of Richardson's invention. This did not convert Richardson's work in adapting his invention to Suzuki's motorcycle into the

work of a hired technician whose work product was automatically owned by Suzuki. The proprietary nature of the work done and information provided by Richardson was established by agreement, as was the agreement that Suzuki would not use this information if it did not exercise its option.

There was substantial evidence before the jury that the information on items 5 and 6 was not publicly known, that Suzuki agreed to receive and preserve it in confidence, and that the information fully satisfies the statutory and jurisprudential requirements for protectible trade secrets.

In order to vacate the jury's verdict upholding items 5 and [*50] 6 as trade secrets and grant a new trial thereon, the trial court must find that the jury's verdict "is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial judge, a miscarriage of justice." *Hanson v. Shell Oil Co.*, 541 F.2d 1352, 1359 (9th Cir. 1976), cert. denied, 429 U.S. 1074, 50 L. Ed. 2d 792, 97 S. Ct. 813 (1977) (quoting *Moist Cold Refrigerator Co. v. Lou Johnson Co.*, 249 F.2d 246, 256, 115 USPQ 160, 168-69 (9th Cir. 1957), cert. denied, 356 U.S. 968, 2 L. Ed. 2d 1074, 78 S. Ct. 1008 (1958)); *William Inglis & Sons Baking Co. v. ITT Continental Baking Co., Inc.*, 668 F.2d 1014, 1027 (9th Cir. 1981), cert. denied, 459 U.S. 825, 74 L. Ed. 2d 61, 103 S. Ct. 57, 103 S. Ct. 58 (1982). It is insufficient that the district court would simply have reached a different verdict.

Our review requires determination of whether the district court abused its discretion in its decision to grant the new trial. *Id. See Transgo, Inc. v. Ajac Transmission Parts Corp.*, 768 F.2d 1001, 1014, 227 USPQ 598, 602 (9th Cir. 1985), cert. denied, 474 U.S. 1059, 88 L. Ed. 2d 778, 106 S. Ct. 802 (1986) ("the grant or denial of either a motion for a new trial or a motion to amend the judgment must be reviewed on the basis of a determination [*51] of whether the district court abused its discretion.") [*1246] *See generally Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 756 F.2d 1574, 1581, 225 USPQ 357, 363 (Fed. Cir. 1985) ("Abuse of discretion may be established by showing that the district court either made an error of law, or a clear error of judgment, or made findings which were clearly erroneous.") The district court's statements, for example with respect to item 5, "I simply cannot conclude that that is a trade secret. It was an attempt to help Suzuki adapt the Richardson concept to the Suzuki machine ...", reflect an error of law.

Despite the legal error in the instructions, as we have discussed, any prejudice resulting therefrom favored Suzuki, not Richardson. We conclude that the district court exceeded its discretionary authority in vacating the

jury verdict and ordering a new trial. That action is reversed, and the jury verdict is reinstated as to items Nos. 5 and 6, including the damages assessed for items Nos. 5 and 6.

D. Items 1-4 and 7-11

For asserted trade secrets Nos. 1-4 and 7-11, the jury may well have been led by erroneous instructions into applying an incorrect legal standard, in finding that these [**52] items were not trade secrets. It appears, however, that Richardson did not move for judgment n.o.v. or a new trial on these verdicts. Although there is a hint in the post-trial colloquy that the court intended or was willing to retry all the trade secret issues along with items 5 and 6, this does not satisfy the rule, supported by logic, that the formalities of post-trial motions be respected. *Snellman v. Ricoh Co.*, 836 F.2d 528, 534, 5 USPQ2d 1341, 1346 (Fed. Cir. 1987) (applying Ninth Circuit law in holding that motions for judgment n.o.v. and for a new trial must be made). Thus we have no authority to review these verdicts.

By special verdict the jury was also asked to assess damages for Suzuki's use of the information encompassed in each of items 1-4 and 7-11, even if the information did not "rise to the dignity of trade secrets". The jury determined this sum for each item, some at \$ 0, the highest at \$ 25,000, for a total of \$ 104,000. The district court sustained this award, on a theory of "quantum meru it compensation". Both parties appeal this award, Richardson asserting its inadequacy, and Suzuki arguing that Richardson was fully paid for his information in the option [**53] agreement, and is not entitled to damages for Suzuki's use of any information received from Richardson.

We have rejected, as a matter of law, Suzuki's theory that it is entitled to use, free, the information disclosed by Richardson under the option agreement. Richardson's disclosures were made under terms that prohibited their use by Suzuki if the option was not exercised. This contract provision does not depend on whether the information is a trade secret, but only on whether it was previously known to Suzuki or generally known to the public, as discussed *ante*.

An appellate tribunal is abjured to determine whether a jury verdict can be sustained, on any reasonable theory. *Jaffke v. Dunham*, 352 U.S. 280, 281, 1 L. Ed. 2d 314, 77 S. Ct. 307 (1957) ("A successful party in the District Court may sustain its judgment on any ground that finds support in the record.")

There was substantial evidence at trial whereby a reasonable jury could have determined the sums awarded by this jury. Indeed, Suzuki does not challenge the

valuations of the damage awards for items 1-11, arguing instead that nothing at all is owing.

The judgment as to items 1-4 and 7-11 is affirmed, including damages assessed for these items in [**54] the total amount of \$ 104,000.

V

Injunction

The district court, having entered final judgment that the Suzuki Full Floater suspension infringed claim 9 of the '332 patent, denied Richardson's motion for injunction.

Infringement having been established, it is contrary to the laws of property, of [*1247] which the patent law partakes, to deny the patentee's right to exclude others from use of his property. 35 U.S.C. § 261. "The right to exclude recognized in a patent is but the essence of the concept of property". *Connell*, 722 F.2d at 1548, 220 USPQ at 198 (citing *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983)).

It is the general rule that an injunction will issue when infringement has been adjudged, absent a sound reason for denying it. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1281, 6 USPQ2d 1277, 1283 (Fed. Cir. 1988). Suzuki has presented no such reason. This court stated in *H.H. Robertson Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 390, 2 USPQ2d 1926, 1929-30 (Fed. Cir. 1987), when reviewing an injunction granted *pendente lite*:

In matters involving patent rights, irreparable harm has been presumed when a clear showing [**55] has been made of patent validity and infringement. *Smith International*, 718 F.2d at 1581, 219 USPQ at 692. This presumption derives in part from the finite term of the patent grant, for patent expiration is not suspended during litigation, and the passage of time can work irremediable harm.

We observe that the '332 patent will expire in less than four years, that litigation started over eight years ago, and that the district court remarked that further proceedings could consume "several years".

Further, a misappropriator of trade secrets has no authorization of right to continue to reap the benefits of its wrongful acts. Richardson is entitled to an injunction against Suzuki's continuing use of trade secrets Nos. 5 and 6. *By-Buk Co.*, 163 Cal. App. 2d at 167, 329 P.2d at 153, 118 USPQ at 553-54; *Components for Research, Inc.*, 241 Cal. App. 2d at 730, 50 Cal. Rptr. at 832.

The denial of Richardson's request for injunction is reversed. On remand the district court shall enter appropriate injunctive relief.

VI

Fraud

The jury found by special verdicts that Suzuki fraudulently induced Richardson to reveal his trade secrets by concealing its intention not to exercise its [**56] option or take a license, and that Suzuki fraudulently concealed from Richardson the fact that it was developing the Full Floater "with the intention of declining to exercise the option and then nevertheless to utilize the plaintiff's trade secrets in the full floater". The jury also found fraud in that Suzuki filed the Tamaki patent application "in the knowledge that the invention asserted therein (the spring/swing arm connection) was first disclosed to them by Richardson". The jury awarded Richardson \$ 20,000 in compensatory and \$ 100,000 in punitive damages.

The district court vacated the judgment and ordered a new trial. Suzuki asserts that the court should have granted Suzuki's motion for judgment n.o.v. instead of ordering a new trial, while Richardson asserts that the court should have upheld the jury verdicts.

The district court certified the question of how to treat its belief that Suzuki did not commit the offenses of fraud and concealment found by the jury, including the question of punitive damages. We first must consider whether a reasonable jury could have reached the verdicts here reached. *Lavender v. Kurn*, 327 U.S. at 653. Apt is the statement of the Ninth Circuit [**57] in *Crocker-Citizens Nat'l Bank v. Control Metals Corp.*, 566 F.2d 631, 635 (9th Cir. 1977): "Courts are not free to reweigh the evidence and set aside the jury verdict merely because the jury could have drawn different inferences or conclusions or because judges feel that other results are more reasonable", quoting *Cockrum v. Whitney*, 479 F.2d 84, 86 (9th Cir. 1973), in turn quoting *Tennant v. Peoria & P. U. Ry. Co.*, 321 U.S. 29, 35, 88 L. Ed. 520, 64 S. Ct. 409 (1944).

The record shows that there was testimony, based on certain of Suzuki's documents, on which a reasonable jury [**1248] could have supported these verdicts. There were issues of credibility, and inferences that could reasonably have been drawn in a manner adverse to Suzuki. "The credibility of witnesses and the weight of the evidence are issues for the jury and are generally not subject to appellate review." *Benigni*, 853 F.2d at 1525. While the district court may have believed that Suzuki did not commit fraud, review shows that the requirements for vacating the jury verdicts and relitigating the issue were not met. *Hanson*, 541 F.2d at

1359; *William Inglis*, 668 F.2d at 1027. A fresh trial is not warranted simply because the district [**58] court would have reached a different verdict.

A jury assessment of punitive damages is not excluded in circumstances such as those here presented, where the jury expressly found fraud. *Tri-Tron Int'l v. Velto*, 525 F.2d 432, 437, 188 USPQ 177, 181 (9th Cir. 1975) ("where compensatory damages are sought and awarded, the court has power, on a proper record, to award punitive damages"), citing *Clark v. Bunker*, 453 F.2d 1006, 1012, 172 USPQ (BNA) 420, 424 (9th Cir. 1972), in turn citing *El Rancho, Inc. v. First Nat'l Bank*, 406 F.2d 1205, 1218 (9th Cir. 1968), cert. denied, 396 U.S. 875, 90 S. Ct. 150, 24 L. Ed. 2d 133 (1969) (jury verdict awarding punitive damages was supported by evidence of malice) and *Davenport v. Mutual Benefit Health & Accident Ass'n*, 325 F.2d 785, 787 (9th Cir. 1963) (remand for trial to allow evidence of fraud to support claim of punitive damages.)

The district court correctly instructed the jury as to the law, stating that "it's only if you find that the defendants' conduct stem from malice, oppression, fraud or bad faith that you can find any punitive damage at all." As stated in *In re Innovative Construction Systems, Inc.*, 793 F.2d 875, 889, 230 USPQ 94, 104 (7th Cir. 1986): [**59]

[A] breach of faith underlies every trade secret claim. However, establishing that breach alone is insufficient to warrant an award of punitive damages; one must also demonstrate that the defendant acted wantonly, willfully, or in reckless disregard of the plaintiff's rights. (Citations omitted)

See also *Neal v. Farmers Insurance Exchange*, 21 Cal. 3d 910, 928, 582 P.2d 980, 986, 148 Cal. Rptr. 389, 395 (1978) ("In order to justify an award of exemplary damages, the defendant must be guilty of oppression, fraud or malice. (Civ. Code § 3294.) He must act with the intent to vex, injure or annoy, or with a conscious disregard of the plaintiff's rights") (quoting *Silberg v. California Life Insurance Co.*, 11 Cal. 3d 452, 462, 521 P.2d 1103, 1110, 113 Cal. Rptr. 711, 718 (1974)); *Reynolds Metals Co. v. Lampert*, 316 F.2d 272, 275 (9th Cir. 1963), cert. denied, 376 U.S. 910, 11 L. Ed. 2d 608, 84 S. Ct. 664 (1964) (in jury trial, evidence to justify punitive damages must show injury was done maliciously or willfully and wantonly or committed with bad motive or recklessly); *Transgo, Inc.*, 768 F.2d at 1024 (The determination to award punitive damages was "within the exclusive province of the jury") (quoting [**60] *Runge v. Lee*, 441 F.2d 579, 584, 169 USPQ 388,

392 (9th Cir.), cert. denied, 404 U.S. 887, 30 L. Ed. 2d 169, 92 S. Ct. 197 (1971)).

The jury having found by special verdicts that Suzuki acted fraudulently, the requisite intent was established. "We give the trial judge and jury wide discretion in assessing punitive damages." *Hatrock v. Edward D. Jones & Co.*, 750 F.2d 767, 772 (9th Cir. 1984). The jury's award was not "so disproportionate to the damages sustained as to be the result of passion or prejudice". *Id.* (citing *Neal*, 21 Cal. 3d at 928, 582 P.2d at 990, 148 Cal. Rptr. at 399). *Transgo, Inc.*, 768 F.2d at 1024 ("We will not overturn such an award unless it appears that the jury was influenced by passion or prejudice.") (citing *Harmsen v. Smith*, 693 F.2d 932, 947 (9th Cir. 1982), cert. denied, 464 U.S. 822, 78 L. Ed. 2d 97, 104 S. Ct. 89 (1983)).

We answer the certified question that, in this case, neither a new trial nor judgment n.o.v. was warranted. The order of a new trial on this issue is vacated. The judgment on the jury verdicts of fraud and the award of compensatory and punitive damages is reinstated.

[*1249] VII

The Tamaki Patent

Richardson states that Suzuki fraudulently patented the Alternate Shock Mount [*61] that had been disclosed to Suzuki by Richardson and Cazort, in a patent that also described the "criss-cross" modification developed at Suzuki. There was evidence and argument on the factual premises, including the absence of supporting documentation on the part of the named inventors Hirohide Tamaki and Manabu Suzuki, the earliest record on their behalf being dated October 1979. The corresponding Japanese patent application was filed on October 16, 1979.

The jury rendered the following special verdicts:

C-3. Did Suzuki and/or Mr. Tamaki file the Tamaki patent application in the knowledge that the invention asserted therein (the spring/swing arm connection) was first disclosed to them by Richardson:

Answer: YES

H-1. Do you find that the Plaintiff, Richardson, is the real inventor of the invention shown in the Tamaki patents and patent applications?

Answer: NO

It was not significantly disputed at trial that claims 1 through 8 of the Tamaki corresponding United States

Patent No. 4,457,393 cover the Alternate Shock Mount of Richardson and Cazort, and that claim 9 includes the criss-cross embodiment of Tamaki and Suzuki. (The scope of claim 5 is raised, but is not material to our conclusion.) [*62]

The district court denied Richardson's post-trial motion that the Tamaki patent be assigned to Richardson. In colloquy with counsel the court explained that it could not do so because "the jury said Richardson wasn't the inventor". Indeed it was conceded, and discussed at trial, that Richardson and Cazort, not Richardson alone, invented the Alternate Shock Mount. Cazort, as well as Richardson, testified at length on this structure. Special verdict H-1 that Richardson is not "the real inventor" is in accord with the co-inventor status of Cazort, and also with the Japanese contribution of the criss-cross embodiment.

The force of special verdict C-3 is not diminished. This verdict was not challenged on appeal. "It was further the duty of the court to direct the appropriate judgment to be entered upon the special verdict." *Traders and General Insurance Co. v. Mallitz*, 315 F.2d 171, 175 (5th Cir. 1963). The district court having failed to implement this verdict, Richardson's motion for judgment and for assignment of the Tamaki patents was not out of order.

The remedy of assignment of the Tamaki patents is a different question from whether Richardson is a sole or joint inventor. The [*63] correction of inventorship is an administrative step, and is not before the court. Similarly, the presence of a further modification in one or two claims of the patent directed to the Alternate Shock Mount does not negate the imposition of an equitable remedy. To hold otherwise would ratify and indeed reward the wrongdoing.

Based on the jury verdict, Richardson is entitled to ownership of the patents as against Suzuki. Such remedy is appropriate under the circumstances; see, e.g., *Colgate-Palmolive Co. v. Carter Products, Inc.*, 230 F.2d 855, 865, 108 USPQ 383, 391 (4th Cir.), cert. denied, 352 U.S. 843, 1 L. Ed. 2d 59, 77 S. Ct. 43 (1956) (corporate assignee of patent application ordered to assign to original holder of trade secrets all rights to patent applications based thereon); *De Long Corp. v. Lucas*, 176 F. Supp. 104, 134 (S.D.N.Y. 1959), aff'd, 278 F.2d 804 (2nd Cir.), cert. denied, 364 U.S. 833, 5 L. Ed. 2d 58, 81 S. Ct. 71 (1960) (when an employee has acquired patents on inventions developed by his former employer, "the courts will hold the wrongdoer to be a constructive trustee of the property misappropriated and will order a conveyance by the wrongdoer to the former employer"); *Becher v. Contoure Laboratories*, [*64] *Inc.*, 279 U.S. 388, 73 L. Ed. 752, 49 S. Ct. 356 (1929)

(same); *Saco-Lowell Shops v. Reynolds*, 141 F.2d 587, 598, 61 USPQ 3, 13 (4th Cir. 1944) (requiring assignment of patent [*1250] based on ideas received by licensee from licensor in confidence during development of invention for market).

Suzuki argues that Richardson has no remedy other than by seeking an interference in the United States Patent and Trademark Office with his own invention, and presumably by taking similar actions, if such are available, in other countries. We do not agree. The courts are not powerless to redress wrongful appropriation of intellectual property by those subject to the courts' jurisdiction.

The denial of Richardson's motion for judgment is reversed. Suzuki shall assign to Richardson the patents filed by Suzuki that include the Richardson/Cazort invention of the Alternate Shock Mount, in all countries. We remand to the district court for the purpose of implementing compliance.

VIII

Prejudgment Interest

The district court denied Richardson's request for prejudgment interest on both the patent infringement and the trade secret damage awards. Prejudgment interest is the rule governing this class of award. *General Motors Corp.* [*65] v. *Devex Corp.*, 461 U.S. 648, 655, 217 USPQ 1185, 1188, 76 L. Ed. 2d 211, 103 S. Ct. 2058 (1983); *Lummus Industries, Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 274, 8 USPQ2d 1983, 1988 (Fed. Cir. 1988); *Fromson*, 853 F.2d at 1573-74, 7 USPQ2d at 1611; *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 967, 1 USPQ2d 1191, 1193 (Fed. Cir. 1986), cert. denied, 482 U.S. 915, 107 S. Ct. 3187, 96 L. Ed. 2d 675 (1987).

No exceptional circumstances having been shown, and no reason why damages for misappropriated trade secrets should be treated differently from damages for patent infringement, the denial of prejudgment interest is reversed.

IX

Willful Infringement and Exceptional Case

The district court refused to submit the question of willful infringement to the jury, stating that Richardson had not provided sufficient evidence to go to the jury.

To refuse to give an issue to the jury is to direct a verdict in favor of the opposing party. Thus we review the district court's ruling on the standard of "whether the evidence permits only one reasonable conclusion after viewing the evidence in the light most favorable to the

non-moving party and drawing all inferences in favor of that party." *Bulgo v. Munoz*, 853 F.2d 710, [*66] 714 (9th Cir. 1988) (citing *Peterson v. Kennedy*, 771 F.2d 1244, 1256 (9th Cir. 1985), cert. denied, 475 U.S. 1122, 90 L. Ed. 2d 187, 106 S. Ct. 1642 (1986)). See also *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

Richardson refers to the evidence adduced in connection with the jury verdicts of fraud, to the verdicts of misappropriation of trade secrets 5 and 6, to the absence of any opinion of United States counsel concerning validity of the '332 patent when Suzuki started its infringing activity, and to evidence from Suzuki's records tending to show bad faith. Viewing this evidence in the light most favorable to Richardson, and drawing all reasonable inferences in his favor, there was sufficient evidence to take to the jury, for the evidence does not require a verdict in favor of Suzuki. Absent sufficient basis for directing the verdict, Richardson has the right of jury determination of this factual question. Willfulness of behavior is a classical jury question of intent. *Shiley*, 794 F.2d at 1568, 230 USPQ at 115; *Hammerquist v. Clarke's Sheet Metal, Inc.*, 658 F.2d 1319, 1325-26, 212 USPQ (BNA) 481, 486 (9th Cir. 1981), cert. denied, 460 U.S. 1052, 103 S. Ct. 1499, 75 L. Ed. 2d 930 (1983). When trial is had to a jury, the issue should [*67] be decided by the jury.

We remand for this purpose. The jury's findings on the issue of willfulness will be pertinent not only to the question of multiplication of damages under 35 U.S.C. § 284, but also to determination of whether this is an exceptional case in terms of 35 U.S.C. § 285. Entitlement under California [*1251] Civil Code § 3426 et seq. may also be considered.

X

Other Arguments

Both sides have raised many points in their briefs, disputing most aspects of the proceedings. We have considered all arguments in reaching our conclusions.

Costs

The award by the trial court of only one third costs to Richardson, in view of the judgments in his favor on the major substantive issues, exceeded the trial court's discretionary authority. Richardson is entitled to his statutory costs incurred before the district court. The reduction thereof is reversed.

Costs on this appeal are taxed in favor of Richardson.

AFFIRMED IN PART, REVERSED IN PART,
VACATED IN PART, AND REMANDED

FULL TEXT OF CASES (USPQ2D)

All Other Cases

**Verdegaal Brothers Inc. v. Union Oil Company of California (CA FC)
2 USPQ2d 1051 Verdegaal Brothers Inc. v. Union Oil Company of**

California

U.S. COURT OF APPEALS FOR THE NINTH CIRCUIT

2 USPQ2d 1051

Decided March 12, 1987

No. 86-1258

Headnotes

PATENTS

1. Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)

Federal district court erred in denying patent infringement defendant's motion for judgment n.o.v., in view of evidence demonstrating that claims for making urea-sulfuric acid fertilizer, including claims that reaction be conducted in "heat sink" of recycled fertilizer to prevent high temperature buildup, were anticipated by prior art patent that specifically detailed process for making such urea-sulfuric acid products and that explicitly taught that base or "heel" of recycled fertilizer can be used to make more of product, even if patentee of prior art did not recognize that heel functioned as heat sink, since heat sink property was inherently possessed by heel.

Particular patents -- Fertilizers

4,310,343, Verdegaal and Verdegaal, Process for Making Liquid Fertilizer, holding of validity and infringement reversed.

Case History and Disposition:

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Appeal from District Court for the Eastern District of California, Coyle, J.

Action by Verdegaal Brothers Inc., William Verdegaal, and George Verdegaal, against Union Oil Company of California, and Brea Agricultural Services Inc., for patent infringement. From decision denying defendants' motion for judgment notwithstanding the verdict, defendants appeal. Reversed.

Attorneys:

Andrew J. Belansky of Christie, Parker & Hale (David A. Dillard, with him on the brief), all of Pasadena, Calif., for appellants.

John P. Sutton of Limbach, Limbach & Sutton (Michael E. Dergosits, with him on the brief), all of San Francisco, Calif., for appellees.

Judge:

Before Markey, Chief Judge, and Davis and Nies, Circuit Judges.

Opinion Text**Opinion By:**

Nies, Circuit Judge.

Union Oil Company of California and Brea Agricultural Services, Inc. (collectively Union Oil) appeal from a judgment of the United States District Court for the Eastern District of California, No. CV-F-83-68 REC, entered on a jury verdict which declared U.S. Patent No. 4,310,343 ('343), owned by Verdegaal Brothers, Inc., "valid" and claims 1, 2, and 4 thereof infringed by Union Oil. Union Oil's motion for judgment notwithstanding the verdict (JNOV) was denied. We reverse.

I

BACKGROUND***The General Technology***

The patent in suit relates to a process for making certain known urea-sulfuric acid liquid fertilizer products. These products are made by reacting water, urea (a nitrogen-containing chemical), and sulfuric acid (a sulfur-containing chemical) in particular proportions. The nomenclature commonly used by the fertilizer industry refers to these fertilizer products numerically according to the percentages by weight of four fertilizer constituents in the

following order: nitrogen, phosphorous, potassium, and sulfur. Thus, for example, a fertilizer containing 28% nitrogen, no phosphorous or potassium, and 9% sulfur is expressed numerically as 28-0-0-9.

The Process of the '343 Patent

The process disclosed in the '343 patent involves the chemical reaction between urea

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and sulfuric acid, which is referred to as an exothermic reaction because it gives off heat. To prevent high temperature buildup, the reaction is conducted in the presence of a nonreactive, nutritive heat sink which will absorb the heat of reaction. Specifically, a previously-made batch of liquid fertilizer -- known as a "heel" -- can serve as the heat sink to which more reactants are added. Claims 1 and 2 are representative:

1. In a process for making a concentrated liquid fertilizer by reacting sulfuric acid and urea, to form an end product, the improvement comprising:
 - a. providing a non-reactive, nutritive heat sink, capable of dissipating the heat of urea and sulfuric acid, in an amount at least 5% of the end product,
 - b. adding water to the heat sink in an amount not greater than 15% of the end product,
 - c. adding urea to the mixture in an amount of at least 50% of the total weight of the end product,
 - d. adding concentrated sulfuric acid in an amount equal to at least 10% of the total weight of the end product.
2. The process of claim 1 wherein the heat sink is recycled liquid fertilizer.

Procedural History

Verdegaal brought suit against Union Oil in the United States District Court for the Eastern District of California charging that certain processes employed by Union Oil for making liquid fertilizer products infringed all claims of its '343 patent. Union Oil defended on the grounds of noninfringement and patent invalidity under 35 U.S.C. §§102, 103. The action was tried before a jury which returned a verdict consisting of answers to five questions. Pertinent here are its answers that the '343 patent was "valid" over the prior art, and that certain of Union Oil's processes infringed claims 1, 2, and 4 of the patent. None were found to infringe claims 3 or 5. Based on the jury's verdict, the district court entered judgment in favor of Verdegaal.

Having unsuccessfully moved for a directed verdict under Fed. R. Civ. P. 50(a), Union Oil timely filed a motion under Rule 50(b) for JNOV seeking a judgment that the claims of the '343 patent were invalid under sections 102 and 103. The district court denied the motion without opinion.

II

ISSUE PRESENTED

Did the district court err in denying Union Oil's motion for JNOV with respect to the validity of claims 1, 2, and 4 of the '343 patent?

III

Standard of Review

When considering a motion for JNOV a district court must: (1) consider all of the evidence; (2) in a light most favorable to the non-moving party; (3) drawing all reasonable inferences favorable to that party; (4) without determining credibility of the witnesses; and (5) without substituting its choice for that of the jury's in deciding between conflicting elements of the evidence. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 936 (Fed. Cir.), *cert. denied*, 469 U.S. 871 [224 USPQ 520] (1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed. Cir. 1983). A district court should grant a motion for

JNOV only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. *Railroad Dynamics*, 727 F.2d at 1513, 220 USPQ at 936; *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

To reverse the district court's denial of the motion for JNOV, Union Oil must convince us that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury in forming its verdict. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), *cert. denied*, 469 U.S. 857 [225 USPQ 792] (1984). *Railroad Dynamics*, 727 F.2d at 1512, 220 USPQ at 936. Substantial evidence is more than just a mere scintilla; it is such relevant evidence from the record taken as a whole as a reasonable mind might accept as adequate to support the finding under review. *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938); *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *SSIH Equip. S.A. v. U.S. Int'l Trade Comm'n*, 718 F.2d 365, 371 n.10, 218 USPQ 678, 684 n.10 (Fed. Cir. 1983). A trial court's denial of a motion for JNOV must stand unless the evidence is of such quality and weight that reasonable and fair-minded persons in the exercise of impartial judgment could not reasonably return the jury's verdict. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed. Cir. 1984).

Our precedent holds that the presumption of validity afforded a U.S. patent by 35

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U.S.C. § 282 requires that the party challenging validity prove the facts establishing invalidity by clear and convincing evidence. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 770 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [224 USPQ 520] (1984). Thus, the precise question to be resolved in this case is whether Union Oil's evidence is so clear and convincing that reasonable jurors could only conclude that the claims in issue were invalid. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 935.

Anticipation

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [224 USPQ 520] (1984). Union Oil asserts that the subject claims of the '343 patent are anticipated under 35 U.S.C. § 102(e) 1 by the teachings found in the original application for U.S. Patent No. 4,315,783 to Stoller, which the jury was instructed was prior art.

From the jury's verdict of patent validity, we must presume that the jury concluded that Union Oil failed to prove by clear and convincing evidence that claims 1, 2, and 4 were anticipated by the Stoller patent. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Under the instructions of this case, this conclusion could have been reached only if the jury found that the Stoller patent did not disclose each and every element of the claimed inventions. Having reviewed the evidence, we conclude that substantial evidence does not support the jury's verdict, and, therefore, Union Oil's motion for JNOV on the grounds that the claims were anticipated should have been granted.

The Stoller patent discloses processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers. Example 8 of Stoller specifically details a process for making 30-0-0-10 urea-sulfuric acid products. There is no dispute that Example 8 meets elements b, c, and d of claim 1, specifically the steps of adding water in an amount not greater than 15% of the product, urea in an amount of at least 50% of the product, and concentrated sulfuric acid in an amount of at least 10% of the product. Verdegaaal disputes that Stoller teaches element a, the step of claim 1 of "providing a non-reactive, nutritive heat sink." As set forth in claim 2, the heat sink is recycled

fertilizer. 2

The Stoller specification, beginning at column 7, line 30, discloses:

Once a batch of liquid product has been made, it can be used as a base for further manufacture. This is done by placing the liquid in a stirred vessel of appropriate size, adding urea in sufficient quantity to double the size of the finished batch, adding any water required for the formulation, and slowly adding the sulfuric acid while stirring. Leaving a heel of liquid in the vessel permits further manufacture to be conducted in a stirred fluid mass.

This portion of the Stoller specification explicitly teaches that urea and sulfuric acid can be added to recycled fertilizer, i.e., a heel or base of previously-made product. Dr. Young, Union Oil's expert, so testified. Verdegaal presented no evidence to the contrary.

Verdegaal first argues that Stoller does not anticipate because in Stoller's method sulfuric acid is added *slowly*, whereas the claimed process allows for rapid addition. However, there is no limitation in the subject claims with respect to the rate at which sulfuric acid is added, and, therefore, it is inappropriate for Verdegaal to rely on that distinction. *See SSIH*, 718 F.2d at 378, 218 USPQ at 689. It must be assumed that slow addition would not change the claimed process in any respect including the function of the recycled material as a heat sink.

Verdegaal next argues that the testimony of Union Oil's experts with respect to what

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Stoller teaches could well have been discounted by the jury for bias. Discarding that testimony does not eliminate the reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process may be used to make more of the product.

[1] Verdegaal raises several variations of an argument, all of which focus on the failure of Stoller to explicitly identify the heel in his process as a "heat sink." In essence, Verdegaal maintains that because Stoller did not recognize the "inventive concept" that the heel functioned as a heat sink, Stoller's process cannot anticipate. This argument is wrong as a matter of fact and law. Verdegaal's own expert, Dr. Bahme, admitted that Stoller discussed the problem of high temperature caused by the exothermic reaction, and that the heel could function as a heat sink. 3 In any event, Union Oil's burden of proof was limited to establishing that Stoller disclosed the same process. It did not have the additional burden of proving that Stoller recognized the heat sink capabilities of using a heel. Even assuming Stoller did not recognize that the heel of his process functioned as a heat sink, that property was inherently possessed by the heel in his disclosed process, and, thus, his process anticipates the claimed invention. *See In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971). The pertinent issues are whether Stoller discloses the process of adding urea and sulfuric acid to a previously-made batch of product, and whether that base would in fact act as a heat sink. On the entirety of the record, these issues could only be resolved in the affirmative.

On appeal Verdegaal improperly attempts to attack the status of the Stoller patent as prior art, stating in its brief: Verdegaal also introduced evidence at trial that the Stoller patent is not prior art under 35 U.S.C. §§ 102(e)/103. Professor Chisum testified that the Stoller patent, in his opinion, was not prior art. . . . This conclusion finds support in *In re Wertheim*, 646 F.2d 527 [209 USPQ 554] (CCPA 1981), and 1 Chisum on Patents §3.07[3]. Appellee Brief at 27 (record cite omitted). Seldom have we encountered such blatant distortion of the record. A question about the status of the Stoller disclosure as prior art did arise at trial. Union Oil asserted that, even though the Stoller patent issued after the '343 patent, Stoller was prior art under section 102(e) as of its filing date which was well before the filing date of Verdegaal's application. Professor Chisum never testified that the Stoller patent was *not* prior art, but rather, stated that *he did not know* whether it was prior art. An excerpt from the pertinent testimony leaves no doubt on this point:

Q. (Mr. Sutton): And do you know whether the Stoller patent is prior art to the application of the Verdegaal patent?

A. (Prof. Chisum): I don't know that it is, no.

We find it even more incredible that Verdegaal would attempt to raise an issue with respect to the status of the

Stoller patent given that the case was submitted to the jury with the instruction that the original Stoller patent application was prior art. 4 Verdegaal made no objection to that instruction below, and in its appeal briefs, the instruction is cavalierly ignored.

In sum, Verdegaal is precluded from arguing that the Stoller patent should not be considered prior art. *See* Fed. R. Civ. P. 51; *Weinar v. Rollform Inc.*, 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed. Cir. 1984), *cert. denied*, 105 S.Ct. 1844 (1985); *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 615, 222 USPQ 654, 662 (Fed. Cir.), *cert. denied*, 469 U.S. 1038 (1984). 5

After considering the record taken as a whole, we are convinced that Union Oil established anticipation of claims 1, 2, and 4 by clear and convincing evidence and that no reasonable juror could find otherwise. Consequently, the jury's verdict on validity is unsupported by substantial evidence and

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cannot stand. Thus, the district court's denial of Union Oil's motion for JNOV must be reversed.

Conclusion

Because the issues discussed above are dispositive of this case, we do not find it necessary to reach the other issues raised by Union Oil. 6 In accordance with this opinion, we reverse the portion of the judgment entered on the jury verdict upholding claims 1, 2, and 4 of the '343 patent as valid under section 102(e) and infringed.

REVERSED

Footnotes

Footnote 1. Section 102(e) provides:

A person shall be entitled to a patent unless--

.....
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent
.....

Footnote 2. Claim 4 is written in terms of approximate percentages of all reactants by weight of the end product. No argument is made that the process of claim 4 would result in a fertilizer product any different from that disclosed by Example 8 of Stoller.

Footnote 3. There is no dispute that the percentage of heel described in Stoller meets the percentage of heat sink required by the claims.

Footnote 4. The jury instruction read:

Stoller filed two patent applications -- an original application on October 30th, 1978, and a second on February 7th, 1980. Under the patent laws, the claims of the '343 patent are invalid if you find that the original application (Exhibit BL) anticipates the process claimed in the '343 patent.

Footnote 5. Union Oil also argues that Verdegaal's counsel misled the jury by its closing rebuttal argument: ut I think it's important to keep in mind that [Stoller] couldn't have been a prior patent because it issued a month after the Verdegaal patent had issued.

We disapprove of Verdegaal's tactic which would form the basis for a grant of a motion for a new trial but for our conclusion that outright reversal of the ruling on the motion for JNOV is in order.

Footnote 6. It should not be inferred that all of these issues were properly before us. Union Oil appears to assume that on appeal it may dispute the resolution of any *issue* which is denominated an "issue of law" even though it was not raised in its motion for JNOV. This is incorrect. *See Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 934.

- End of Case -

cable that an omission of an element together with the omission of its function does not constitute a patentable change.

We are of the opinion that the claims here involved do not read upon the Miles reference, and we are likewise of the opinion that the modifications of the Miles device necessary to meet the claims here involved would not be obvious to one skilled in the art.

We therefore hold that the decision of the Board of Appeals should be, and is, reversed.

Reversed.



22 C. C. P. A. (Patents)

In re YOUNG.

Patent Appeal No. 3432.

Court of Customs and Patent Appeals.

March 25, 1935.

Patents ⇨ 16

Certain claims of application for patent on machine employing roller molding action in making reinforced concrete beams *held* properly rejected for want of invention.

Appeal from Board of Appeals of United States Patent Office, Serial No. 412,654.

Application for patent by Howard F. Young. From a decision of the Board of Appeals of the United States Patent Office affirming a decision of the Examiner which rejected certain claims of the application, applicant appeals.

Affirmed.

Chappell & Earl, of Kalamazoo, Mich., for appellant.

T. A. Hostetler, of Washington, D. C. (Howard S. Miller, of Washington, D. C., of counsel), for Commissioner of Patents.

Before GRAHAM, Presiding Judge, and BLAND, HATFIELD, GARRETT, and LENROOT, Associate Judges.

GARRETT, Associate Judge.

This is an appeal from a decision of the Board of Appeals of the United States Patent Office, affirming the decision of the Examiner, rejecting six claims (Nos. 4 to 9 in-

clusive) of appellant's application for patent relating to machines for making reinforced concrete beams. Three claims, Nos. 1, 2, and 3, stand allowed, and are not here involved.

Claim 4 is quoted as illustrative; claim 6 is also quoted, because of a particular limitation contained therein:

"4. In a machine for making concrete beams, the combination of a main track or way, a carriage therefor, a bed plate on the top of said carriage with apertures there-through, a series of elevating shoes disposed on the said bed plate within said apertures, vertical plungers attached thereto for elevating the same, a common leveling elevator bar connected to the said plungers, means to elevate said bar, a palette with upwardly curved longitudinal central portion disposed above the said bed plate and elevating shoes, side bars connected to the said bed plate for cooperation with the said palette, the said palette being adapted to support concrete reinforced structures with longitudinal members connected by cross bars supported by suitable chairs, compression rollers with midribs of successively increasing size and overlapping contour disposed above the said palette and in position to act successively on the contents thereof when the carriage is advanced, and a concrete hopper disposed to deliver to the said mold."

"6. In a machine for making concrete beams, the combination of a main track or way, a carriage therefor, a bed plate on the top of said carriage, a palette with upwardly curved longitudinal central portion disposed above the said bed plate, side bars connected to the said bed plate for cooperation with the said palette, concrete reinforced structures with longitudinal members connected by cross bars supported by suitable chairs on the said palette, compression rollers with mid-ribs of successively increasing size and overlapping contour disposed above the said palette and in position to act successively on the contents thereof when the carriage is advanced, and a concrete hopper with delivery spout disposed to deliver to the said mold."

All the other claims are apparently broader in scope than claim 4.

The references cited are: Anderson, 832,441, Oct. 2, 1906; Trevillian, 1,342,192, June 1, 1920; Craig, 1,534,361, April 21, 1925.

All of the appealed claims were rejected by both tribunals of the Patent Office for

lack of patentability in view of the prior art, and claim 6 upon the further ground that it includes the articles operated upon by the machines, that is, to quote from the claim, "concrete reinforced structures with longitudinal members connected by cross bars supported by suitable chairs on the said palette," as a part of the combination.

The brief for appellant states: "The machine is organized specifically for manufacturing reinforced I-beams having longitudinal metallic head and base reinforcing member with cross shear members."

The disclosure, in so far as here material, is of a device having a carriage, carried upon a track, the carriage being supported upon a detachable palette designed to serve as a mold for one side of the beam, while side and end members are designed to form the other parts of the mold. Into the mold there are placed reinforcing members comprising rods connected by vertical cross-bars, after which the concrete material is introduced from a hopper. The mold is then moved along the track beneath a series of stationary rollers. These rollers have ribs projecting from their middle portions, the width of the ribs increasing upon the successive rollers. It is the function of the rollers to compress the plastic concrete into proper form about the reinforcing members, and it is claimed that through the instrumentality of the successive mid-ribs the mix is kneaded in a manner which spreads it toward the head and base of the beam and there compacts it in a desirable manner. The completed beam is finally ejected upon the palette by plungers which act upon shoes underneath the palette.

The patent to Anderson is for a machine for the manufacture of building blocks. The disclosure is of a device having channels or troughs over which are operated carriages equipped with rollers. Molding material is introduced into the channels and when the rollers are rolled therethrough shapes are produced for casting cement blocks.

We do not find in this patent any teaching that the rollers operate upon the blocks themselves in the process of molding or shaping them. The sole function of Anderson's rollers seems to be that of compressing the sand or other molding material in the trough so as to form the shapes into which the blocks are ultimately to be molded.

We feel, therefore, that the Anderson patent has little if any relation to the device of appellant.

The patent to Craig is for a block-making machine and apparently was cited principally because of its showing relating to the ejection of the finished blocks by the elevation of bars actuated by cams rolling over cam tracks.

With the possible exception of claim 4, *supra*, we do not find the ejection element defined in any of the claims on appeal, although the brief for appellant alludes to claims 5 and 6 as also containing it. It seems to be present in one or more of the allowed claims.

The Craig patent, it is believed, substantially anticipates the ejection feature of appellant's device. This fact, however, under the rule stated by this court in the case of *In re Luks*, 69 F.(2d) 552, 21 C. C. P. A. (Patents) 1005, would not of itself defeat appellant's combination claims, if found otherwise patentable.

The patent to Trevillian relates to an apparatus for molding plastic materials, "such as are used in the manufacture of tile, bricks, coping, etc."

Palettes of whatever configuration may be necessary to manufacture the particular form of article desired are provided, these to be carried upon a flanged-wheel conveyor. The material to be molded is conveyed to the palettes through a hopper, and the conveyor, traveling upon guides, moves the loaded palettes forward under mechanisms which perform the various operations upon the material that are required to produce the desired article, these operations being defined in the specification as "leveling," "tamping," "troweling," "smoothing," and "finishing."

The mechanism for the finishing operation seems to be the feature of the Trevillian device regarded by the tribunals of the Patent Office as substantially anticipating appellant's mid-rib rollers. In this feature there is disclosed a roller mounted upon a shaft; the roller, as shown in the drawings, having enlarged portions or ribs, its ends being flanged and so arranged in relation to the palette as to shear off the edges of the product in a smooth manner.

It does not appear that the rollers of the Trevillian device, above alluded to, perform any function in the actual shaping or molding of the articles which it is designed to produce. Trevillian's specification recites that: "Preferably the roll is revolved at a comparatively low speed in a direction counter to that of the travel of the product

at the point of contact, so as to produce a very smoothly finished surface."

It appears from a study of his patent that Trevillian's rollers merely operate to finish or smooth the surfaces of articles which have been already shaped by the preceding operations.

Such appears to be the finding of the Examiner, which was approved by the Board of Appeals, but the Examiner says: "However, it is held that even smoothing necessarily necessitates some displacement of material, however slight that displacement might be."

The Examiner also calls attention to the fact that certain of the claims on appeal, such as No. 9, merely call for a roller with a mid-rib section thereon followed by a statement of function.

We do not understand the tribunals of the Patent Office to hold that the references cited of themselves constitute an anticipation of appellant's device, but rather it is held that, in view of them, no invention is involved.

The board says: "We can see no invention in employing a roller molding action for the upper portion of a beam and we agree with the examiner that it would be obvious to those skilled in the art that a plurality of rollers of different shapes may be employed when it is not expedient to complete the molding action with one roller."

We regard the foregoing as a correct statement, and a careful analysis of the appealed claims leads us to the conclusion that any structure which they specify, that is not included in the allowed claims, is structure designed for none other than the operation as described in the statement.

It is true that claim 6, *supra*, does include as an element the material being worked upon; that this was one ground upon which the Examiner rejected it, and that the board approved such ground.

We do not deem it necessary to determine whether, were the claim otherwise patentable, the inclusion of this limitation should of itself prevent its allowance, but we do hold that its inclusion may not lend patentability, since the claim is not otherwise allowable.

The decision of the Board of Appeals is affirmed.

Affirmed.

22 C. C. P. A. (Patents)

WEMPLE et al. v. PEIRCE et al.

Patent Appeal No. 3441.

Court of Customs and Patent Appeals.

March 25, 1935.

1. Patents \Rightarrow 106(2)

Counts of interference held within range of applications for patent for zinc base alloy, though specifications of respective applications defined different results.

2. Patents \Rightarrow 191

Party securing patent is entitled to protection in use of all substantial parts of ranges covered.

3. Patents \Rightarrow 113(4)

Part of brief containing quotations from other applications not involved on appeal in patent interference proceeding, and not made part of record, should be disregarded.

Appeal from Board of Appeals of United States Patent Office, Interference No. 62,666.

Interference proceeding between Leland E. Wemple and another, junior parties, and Willis M. Peirce and another, senior parties. The decision of the Examiner of Interferences awarding priority of invention to the senior parties was affirmed by the Board of Appeals of the United States Patent Office, and the junior parties appeal.

Affirmed.

Bailey & Larson, of Washington, D. C. (Roberts B. Larson and Jennings Bailey, Jr., both of Washington, D. C., of counsel), for appellants.

Merton W. Sage, of New York City (C. M. Fisher, of Washington, D. C., of counsel), for appellees.

Before GRAHAM, Presiding Judge, and BLAND, HATFIELD, GARRETT, and LENROOT, Associate Judges.

GARRETT, Associate Judge.

This is an appeal in an interference proceeding wherein the Board of Appeals of the United States Patent Office affirmed the decision of the Examiner of Interferences awarding priority of invention to appellees.

Three counts are involved. They read as follows:

"1. A zinc base alloy consisting principally of zinc containing from .1-2% of Cu



PATENT
Docket No. 150.00810102

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s):	Brian A. Vaartstra)	Group Art Unit:	2823
)		
Serial No.:	09/865,612)	Examiner:	George Fourson III
Confirmation No.:	4697)		
)		
Filed:	May 25, 2001)		
)		
For:	METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL- <u>CONTAINING FILMS ON SEMICONDUCTOR STRUCTURES</u>			

APPELLANT'S BRIEF ON APPEAL

Commissioner for Patents
Mail Stop AF
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant presents this Appeal Brief in support of the appeal from the final rejection of claims 18-38, as indicated in the Notice of Appeal filed in the above-identified patent application on November 20, 2003.

Real Party In Interest

The real party in interest is Micron Technology, Inc., of Boise, Idaho, as evidenced by the assignment recorded September 2, 1998, at Reel 9442, Frame 0583, for the parent application, U.S. Serial No. 09/146,003, filed September 2, 1998 (now U.S. Pat. No. 6,281,124).

Related Appeals and Interferences

There are no related appeals or interferences pending in connection with any related applications.

APPELLANT'S BRIEF ON APPEAL

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Serial No.: 09/865,612

Confirmation No.: 4697

Filed: May 25, 2001

For: METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL-CONTAINING FILMS ON
SEMICONDUCTOR STRUCTURES

Status of Claims

Claims 1-17 having been canceled, the pending claims are claims 18-38. Rejected claims 18-38, all of which are on appeal, are listed in Appendix I.

Status of Amendments

An Amendment and Response under 37 C.F.R. §1.116 was submitted by Appellant on October 20, 2003. The amendment was denied entry by the Examiner in the Advisory Action mailed October 28, 2003. Thus, the claims listed in Appendix I do not reflect the amendments requested in the Amendment and Response under 37 C.F.R. §1.116 submitted by Appellant on October 20, 2003.

Summary of the Invention

Independent claims 18, 19, 33, and 38 each recite, among other things, a chemical vapor deposition system including a vessel containing *a precursor including one or more complexes of the formula: $[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$* (e.g., page 5, line 25 to page 6, line 24; and page 12, line 16 to page 16, line 11 of the present specification).

Issue

Whether claims 18-38 are unpatentable under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,328,804 (Murzin et al.).

Grouping of Claims

For the purposes of this appeal, claims 18-38 stand or fall together with respect to the Issue identified herein above.

Serial No.: 09/865,612

Confirmation No.: 4697

Filed: May 25, 2001

For: METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL-CONTAINING FILMS ON SEMICONDUCTOR STRUCTURES

Arguments

Claims 18-38 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,328,804 (Murzin et al.). Appellant respectfully traverses the rejection, and requests review and reversal by the Board.

"[F]or anticipation under 35 U.S.C. 102, the reference must teach *every aspect* of the claimed invention either explicitly or impliedly." M.P.E.P. §706.02 (emphasis added). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the patent claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Murzin et al. disclose a "method and system for chemical vapor deposition" (Abstract). However, Murzin et al. lack, among other things, a chemical vapor deposition system that includes a vessel containing *a precursor including one or more complexes of the formula: $[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$* . Thus, Appellant respectfully submits that the Examiner has failed to establish a *prima facie* case of anticipation of claims 18-38 under 35 U.S.C. §102(e).

However, in the Final Office Action mailed August 20, 2003, the Examiner maintained the rejection stated in the Office Action mailed December 3, 2002 (at page 2), in which the Examiner asserted that the "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims," citing as support *In re Young*, 75 F.2d 996 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). Further, in the Final Office Action mailed August 20, 2003, the Examiner referred to M.P.E.P. §2115 (page 2 of the Office Action mailed August 20, 2003), which states:

In *In re Young*, a claim to a machine for making concrete beams included a limitation to the concrete reinforced members **made by the machine** as well as the structural elements of the machine itself. The court held that the **inclusion of the article formed** within the body of the claim did not, without more, make the claim patentable (emphasis added).

In short, the Examiner is using *In re Young* as authority for denying patentable weight to the language "*a precursor including one or more complexes of the formula:*

$[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$." Appellant respectfully submits that the present claims can be distinguished from the facts presented in *In re Young* for at least the reasons presented herein below.

A. CLAIMS 18-38 ARE DIRECTED TO A CHEMICAL VAPOR DEPOSITION SYSTEM, NOT MERELY A MACHINE

The M.P.E.P. at §2115 cautions that "this line of cases [e.g., *In re Young*] is limited to claims directed to **machinery** which works upon an article or material in its intended use. It does not apply to product claims or kit claims (i.e., claims directed to a plurality of articles grouped together as a kit)" (emphasis added).

Appellant respectfully submits that he is not claiming merely a **machine**, but a chemical vapor deposition **system** that is capable of forming a metal-containing film on a substrate, wherein the system includes, among other things, a deposition chamber and a vessel containing the recited precursor. Thus, the vessel containing the recited precursor is an element of the claimed system. Indeed, the system as claimed could not function to deposit a metal-containing film on the substrate without a precursor.

B. CLAIMS 18-38 RECITE SUBJECT MATTER THAT CAN LEND PATENTABILITY TO A CLAIM

The M.P.E.P., in discussing *In re Young*, provides a direction for determining patentability by stating that "[t]he court held that the inclusion of the article formed within the body of the claim did not, *without more*, make the claim patentable" (M.P.E.P. §2115, emphasis added). Appellant respectfully submits that the present claims (e.g., chemical vapor deposition systems that include a *precursor*) can be distinguished from the claims discussed by *In re Young* (e.g., machines for making concrete beams including, as an element, the concrete reinforced

structures). For example, there is nothing in the record of *In re Young* to indicate that the material being worked upon (i.e., the concrete reinforced structures), or methods of making or using the material being worked upon, were subject matter that would be patentable over the prior art. Conversely, the United States Patent and Trademark Office determined that methods reciting *a precursor composition including one or more complexes of the formula:*

$[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$ (e.g., independent claims 1 and 15 of issued U.S. Pat. No. 6,281,124 (Vaartstra), the parent of the present application) were patentable over the art of record. Furthermore, the United States Patent and Trademark Office issues patents having claims directed to *chemical vapor deposition systems* that include a precursor including, for example, U.S. Pat. Nos. 6,306,217 (Uhlenbrock et al.) and 6,444,041 (Vaartstra). Thus, in accordance with M.P.E.P. §2115, Appellant has provided reasons for the patentability of the presently pending claims.

C. CLAIMS 18-38 DO NOT RECITE THE MATERIAL MADE BY THE CLAIMED SYSTEM

In *In re Young*, the claim at issue (i.e., claim 6) recited "a machine for making concrete beams" and further recited the "concrete reinforced . . . members" made by the machine.

In contrast, the presently claimed chemical vapor deposition systems are useful for forming a metal-containing film on a substrate (e.g., page 13, lines 4-22 of the present specification). Thus, a metal-containing film on a substrate is the material "made by" the present system. However, Appellant is not including "a metal-containing film on a substrate" in the body of the claim. Thus, Appellant respectfully submits that the present claims do not recite the material "made by" or "worked upon" by the claimed system.

D. IN RE YOUNG ADDRESSES OBVIOUSNESS, NOT ANTICIPATION

Claims 18-38 of the present application are rejected under 35 U.S.C. §102(e) as being *anticipated* by Murzin et al. Conversely, claim 6 of *In re Young* was found by the court to be *obvious* over the prior art, not *anticipated*: ("We do not understand the tribunals of the Patent

APPELLANT'S BRIEF ON APPEAL

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Office to hold that the references cited of themselves constitute an anticipation of appellant's device, but rather it is held that, in view of them, no invention is involved." *In re Young*, F.2d at 998.).

Based on the arguments presented herein above, Appellant reiterates that "for anticipation under 35 U.S.C. 102, the reference must teach *every aspect* of the claimed invention either explicitly or impliedly." M.P.E.P. §706.02 (emphasis added). Appellants respectfully submit that Murzin et al. fail to teach *every aspect* of the present invention, and thus, fail to anticipate present claims 18-38.

APPELLANT'S BRIEF ON APPEAL

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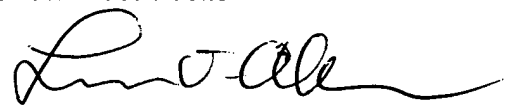
Conclusion

For at least the reasons presented herein above, Appellant respectfully requests that patentable weight be given to the recitation of "*a precursor including one or more complexes of the formula: $[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$* " Review and reversal of the rejections of claims 18-38 are respectfully requested.

Respectfully submitted for
Brian A. Vaartstra

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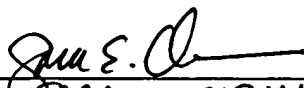
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CERTIFICATE UNDER 37 CFR §1.10:

"Express Mail" mailing label number: EV 201890238 US

Date of Deposit: January 20, 2004

The undersigned hereby certifies that the Transmittal Letter and the paper(s) and/or fee(s), as described hereinabove, are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to the Commissioner for Patents, Mail Stop AF, P.O. Box 1450, Alexandria, VA 22313-1450.

By: 
Name: SARA E. OLSON

APPENDIX I - PENDING CLAIMS ON APPEAL

Serial No.: 09/865,612

Docket No.: 150.00810102

18. A chemical vapor deposition system comprising:

a deposition chamber having a substrate positioned therein;

a vessel containing a precursor comprising one or more complexes of the

formula:



wherein:

M is a group IVB, VB, or VIB metal:

each R^1 , R^2 , R^3 , and R^4 is independently H or an organic group;

L is selected from the group of CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 ,

wherein each R^5 , R^6 , and R^7 group is independently an organic group;

$x = 1$ to 4; and

$y = 1$ to 4; and

a source of inert carrier gas for transferring the precursor to the chemical vapor deposition chamber.

19. A chemical vapor deposition system comprising:

a deposition chamber having a substrate positioned therein;

a vessel containing a precursor composition comprising one or more complexes of the formula:



wherein:

M is a Group IVB, VB, or VIB metal;

each R^1 , R^2 , R^3 , and R^4 is independently H or an organic group;

each L is independently CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 , wherein

each R^5 , R^6 , and R^7 group is independently an organic group;

$x = 1$ to 4; and

$y = 1$ to 4.

Appendix I

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Serial No.: 09/865,612

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For: METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL-CONTAINING FILMS ON SEMICONDUCTOR STRUCTURES

20. The system of claim 19 wherein the deposition chamber is adapted for forming a metal-containing film comprising vaporizing the precursor composition and directing it toward the semiconductor substrate or substrate assembly using a chemical vapor depositional technique.
21. The system of claim 20 wherein the chemical vapor deposition technique comprises flash vaporization, bubbling, microdroplet formation, or combinations thereof.
22. The system of claim 20 wherein the precursor composition is vaporized in the presence of a carrier gas.
23. The system of claim 20 wherein the precursor composition is vaporized in the presence of a reaction gas.
24. The system of claim 23 wherein the reaction gas is selected from the group of H_2 , SiH_4 , Si_2H_6 , NH_3 , N_2H_4 , PH_3 , AsH_3 , GeH_4 , $t-BuSbMe_2$, H_2S , H_2Se , $Te(allyl)_2$, and combinations thereof.
25. The system of claim 19 wherein each R^1 , R^2 , R^3 , and R^4 group is independently H or a (C_1-C_{30}) organic group.
26. The system of claim 19 wherein the complex is a monomer.
27. The system of claim 19 wherein each R^1 , R^2 , R^3 , and R^4 group is independently H or a (C_1-C_4) alkyl moiety.
28. The system of claim 19 wherein R^7 is cyclopentadienyl or a substituted cyclopentadienyl.

Appendix I

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Serial No.: 09/865,612

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Filed: May 25, 2001

For: METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL-CONTAINING FILMS ON
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29. The system of claim 19 wherein the precursor composition is a liquid.
30. The system of claim 19 wherein the metal is a Group VB metal.
31. The system of claim 30 wherein the metal is vanadium.
32. The system of claim 19 wherein the metal-containing film is a Group IVB, VB, or VIB metal alloy film.
33. A chemical vapor deposition system comprising:
a deposition chamber having a semiconductor substrate or substrate assembly positioned therein;
a vessel containing a precursor composition comprising one or more complexes of the formula:
$$[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_y$$

wherein:
M is a Group IVB, VB, or VIB metal;
each R^1 , R^2 , R^3 , and R^4 is independently H or an organic group;
each L is independently CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 , wherein each R^5 , R^6 , and R^7 group is independently an organic group;
 $x = 1$ to 4; and
 $y = 1$ to 4.
34. The system of claim 33 wherein each R^1 , R^2 , R^3 , and R^4 is independently H or a (C_1-C_{30}) organic group.
35. The system of claim 33 wherein the complex is a monomer.

Appendix I

Page A-4

Serial No.: 09/865,612

Confirmation No.: 4697

Filed: May 25, 2001

For: METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL-CONTAINING FILMS ON SEMICONDUCTOR STRUCTURES

36. The system of claim 33 wherein each R^1 , R^2 , R^3 , and R^4 group is independently H or a (C_1-C_4) alkyl moiety.

37. The system of claim 33 wherein R^7 is cyclopentadienyl or a substituted cyclopentadienyl.

38. A chemical vapor deposition system comprising:

a deposition chamber having a semiconductor substrate or substrate assembly positioned therein;

a vessel containing a precursor composition comprising one or more liquid complexes of the formula:



wherein:

M is a Group IVB, VB, or VIB metal;

each R^1 , R^2 , R^3 , and R^4 independently H or a $(C_1 - C_{30})$ organic group;

each L is independently CO, NO, CN, CS, CNR^5 , R^6CN , or R^7 , wherein each R^5 , R^6 , and R^7 group is independently an organic group;

$x = 1$ to 4; and

$y = 1$ to 4.

APPENDIX II - CITED AUTHORITIES AND DOCUMENTS

Serial No.: 09/865,612

Docket No.: 150.00810102

1. M.P.E.P. §706.02, Eighth Edition, Revision 1 (February 2003).
2. M.P.E.P. §2115, Eighth Edition, Revision 1 (February 2003).
3. *In re Otto*, 312 F.2d 937, 136 USPQ 458 (CCPA 1963).
4. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989).
5. U.S. Pat. No. 6,281,124 (Vaartstra).
6. U.S. Pat. No. 6,306,217 (Uhlenbrock et al.).
7. U.S. Pat. No. 6,328,804 (Murzin et al.).
8. U.S. Pat. No. 6,444,041 (Vaartstra).
9. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987).
10. *In re Young*, 75 F.2d 996 (CCPA 1935).

CFR 1.116(b) and (c), even if the appeal is in reply to a non-final Office action.

REJECTIONS IN STATUTORY INVENTION REGISTRATIONS

See MPEP Chapter 1100 for rejection of claims in an application for a Statutory Invention Registration.

706.01 Contrasted With Objections

The refusal to grant claims because the subject matter as claimed is considered unpatentable is called a "rejection." The term "rejected" must be applied to such claims in the examiner's action. If the form of the claim (as distinguished from its substance) is improper, an "objection" is made. An example of a matter of form as to which objection is made is dependency of a claim on a rejected claim, if the dependent claim is otherwise allowable. See MPEP § 608.01(n). The practical difference between a rejection and an objection is that a rejection, involving the merits of the claim, is subject to review by the Board of Patent Appeals and Interferences, while an objection, if persisted, may be reviewed only by way of petition to the Commissioner.

Similarly, the Board will not hear or decide issues pertaining to objections and formal matters which are not properly before the Board. These formal matters should not be combined in appeals to the Board.

706.02 Rejection on Prior Art [R-1]

35 U.S.C. 102. Conditions for patentability; novelty and loss of right to patent.

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

**>

(e) the invention was described in — (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language; or <

(f) he did not himself invent the subject matter sought to be patented, or

(g)(1) during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. 103. Conditions for patentability; non-obvious subject matter.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b)(1) Notwithstanding subsection (a), and upon timely election by the applicant for patent to proceed under this subsection, a biotechnological process using or resulting in a composition of matter that is novel under section 102 and nonobvious under subsection (a) of this section shall be considered nonobvious if—

(A) claims to the process and the composition of matter are contained in either the same application for patent or in separate applications having the same effective filing date; and

(B) the composition of matter, and the process at the time it was invented, were owned by the same person or subject to an obligation of assignment to the same person.

(2) A patent issued on a process under paragraph (1)—

(A) shall also contain the claims to the composition of matter used in or made by that process, or

(B) shall, if such composition of matter is claimed in another patent, be set to expire on the same date as such other patent, notwithstanding section 154.

(3) For purposes of paragraph (1), the term "biotechnological process" means—

(A) a process of genetically altering or otherwise inducing a single- or multi-celled organism to-

- (i) express an exogenous nucleotide sequence,
- (ii) inhibit, eliminate, augment, or alter expression of an endogenous nucleotide sequence, or
- (iii) express a specific physiological characteristic not naturally associated with said organism;

(B) cell fusion procedures yielding a cell line that expresses a specific protein, such as a monoclonal antibody; and

(C) a method of using a product produced by a process defined by subparagraph (A) or (B), or a combination of subparagraphs (A) and (B).

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

By far the most frequent ground of rejection is on the ground of unpatentability in view of the prior art, that is, that the claimed subject matter is either not novel under 35 U.S.C. 102, or else it is obvious under 35 U.S.C. 103. The language to be used in rejecting claims should be unequivocal. See MPEP § 707.07(d).

CHOICE OF PRIOR ART; BEST AVAILABLE

Prior art rejections should ordinarily be confined strictly to the best available art. Exceptions may properly be made, for example, where:

(A) the propriety of a 35 U.S.C. 102 or 103 rejection depends on a particular interpretation of a claim;

(B) a claim is met only in terms by a reference which does not disclose the inventive concept involved; or

(C) the most pertinent reference seems likely to be antedated by a 37 CFR 1.131 affidavit or declaration.

Such rejections should be backed up by the best other art rejections available. Merely cumulative rejections, i.e., those which would clearly fall if the primary rejection were not sustained, should be avoided.

See also MPEP § 707.05.

>RELIANCE UPON ABSTRACTS AND FOREIGN LANGUAGE DOCUMENTS IN SUPPORT OF A REJECTION

Prior art uncovered in searching the claimed subject matter of a patent application often includes English language abstracts of underlying documents, such as technical literature or foreign patent documents which may not be in the English language. When an abstract is used to support a rejection, the evidence relied upon is the facts contained in the abstract, not additional facts that may be contained in the underlying full text document. Citation of and reliance upon an abstract without citation of and reliance upon the underlying scientific document is generally inappropriate where both the abstract and the underlying document are prior art. See *Ex parte Jones*, 62 USPQ2d 1206, 1208 (Bd. Pat. App. & Inter. 2001) (unpublished).

To determine whether both the abstract and the underlying document are prior art, a copy of the underlying document must be obtained and analyzed. If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection. The record must also be clear as to whether the examiner is relying upon the abstract or the full text document to support a rejection. The rationale for this is several-fold. It is not uncommon for a full text document to reveal that the document fully anticipates an invention that the abstract renders obvious at best. The converse may also be true, that the full text document will include teachings away from the invention that will preclude an obviousness rejection under 35 U.S.C. 103, when the abstract alone appears to support the rejection. An abstract can have a different effective publication date than the full text document. Because all patentability determinations are fact dependent, obtaining and considering full text documents at the earliest practicable time in the examination process will yield the fullest available set of facts upon which to determine patentability, thereby improving quality and reducing pendency.

When both the abstract and the underlying document qualify as prior art, the underlying document should normally be used to support a rejection. In limited circumstances, it may be appropriate for the

examiner to make a rejection in a non-final Office action based in whole or in part on the abstract only without relying on the full text document. In such circumstances, the full text document and a translation (if not in English) may be supplied in the next Office action. Whether the next Office action may be made final is governed by MPEP § 706.07(a).<

REEXAMINATION

For scope of rejections in reexamination proceedings see MPEP § 2258.

DISTINCTION BETWEEN 35 U.S.C. 102 AND 103

The distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words, for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims. The modification must be one which would have been obvious to one of ordinary skill in the art at the time the invention was made. See MPEP § 2131 - § 2146 for guidance on patentability determinations under 35 U.S.C. 102 and 103.

DETERMINING THE EFFECTIVE FILING DATE OF THE APPLICATION

The effective filing date of a U.S. application may be determined as follows:

(A) If the application is a continuation or divisional of one or more earlier U.S. applications >or international applications< and if the requirements of 35 U.S.C. 120 >and 365(c), respectively,< have been satisfied, the effective filing date is the same as the earliest filing date in the line of continuation or divisional applications.

(B) If the application is a continuation-in-part of an earlier U.S. application >or international application<, any claims in the new application not supported

by the specification and claims of the parent application have an effective filing date equal to the filing date of the new application. Any claims which are fully supported under 35 U.S.C. 112 by the earlier parent application have the effective filing date of that earlier parent application.

(C) If the application claims foreign priority under 35 U.S.C. 119(a)-(d) >or 365(a)<, the effective filing date is the filing date of the U.S. application, unless situation (A) or (B) as set forth above applies. The filing date of the foreign priority document is not the effective filing date, although the filing date of the foreign priority document may be used to overcome certain references. See MPEP § 706.02(b) and § 2136.05.

(D) If the application **>properly claims benefit< under 35 U.S.C. 119(e) *>to< a provisional application, the effective filing date is the filing date of the provisional application >for any claims which are fully supported under the first paragraph of 35 U.S.C. 112 by the provisional application.<

See MPEP § 1893.03(b) for determining the effective filing date of an application * under 35 U.S.C. 371. See MPEP § 201.11(a) and § 1895 for >additional information on< determining the effective filing date of a continuation, divisional, or continuation-in-part of a PCT application designating the U.S. See also MPEP § 1895.01 and § 1896 which discuss differences between applications filed under 35 U.S.C. 111(a) and >international applications that enter national stage under< 35 U.S.C. 371.

706.02(a) Rejections Under 35 U.S.C. 102(a), (b), or (e); Printed Publication or Patent [R-1]

Once the examiner conducts a search and finds a printed publication or patent which discloses the claimed invention, the examiner should determine whether the rejection should be made under 35 U.S.C. 102(a), (b), or (e).

In order to determine which section of 35 U.S.C. 102 applies, the effective filing date of the application must be determined and compared with the date of the reference. See MPEP § 706.02 regarding determination of effective filing date of the application.

2115 Material or Article Worked Upon by Apparatus

MATERIAL OR ARTICLE WORKED UPON DOES NOT LIMIT APPARATUS CLAIMS

“Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

In *In re Young*, a claim to a machine for making concrete beams included a limitation to the concrete reinforced members made by the machine as well as the structural elements of the machine itself. The court held that the inclusion of the article formed within the body of the claim did not, without more, make the claim patentable.

In *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967), an apparatus claim recited “[a] taping machine comprising a supporting structure, a brush attached to said supporting structure, said brush being formed with projecting bristles which terminate in free ends to collectively define a surface to which adhesive tape will detachably adhere, and means for providing relative motion between said brush and said supporting structure while said adhesive tape is adhered to said surface.” An obviousness rejection was made over a reference to Kienzle which taught a machine for perforating sheets. The court upheld the rejection stating that “the references in claim 1 to adhesive tape handling do not expressly or impliedly require any particular structure in addition to that of Kienzle.” The perforating device had the structure of the taping device as claimed, the difference was in the use of the device, and “the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.”

Note that this line of cases is limited to claims directed to machinery which works upon an article or material in its intended use. It does not apply to product claims or kit claims (i.e., claims directed to a plurality of articles grouped together as a kit).

2116 Material Manipulated in Process

The materials on which a process is carried out must be accorded weight in determining the patentability of a process. *Ex parte Leonard*, 187 USPQ 122 (Bd. App. 1974).

2116.01 Novel, Unobvious Starting Material or End Product

All the limitations of a claim must be considered when weighing the differences between the claimed invention and the prior art in determining the obviousness of a process or method claim. See MPEP § 2143.03.

In *re Ochiai*, 71 F.3d 1565, 37 USPQ2d 1127 (Fed. Cir. 1995) and *In re Brouwer*, 77 F.3d 422, 37 USPQ2d 1663 (Fed. Cir. 1996) addressed the issue of whether an otherwise conventional process could be patented if it were limited to making or using a nonobvious product. In both cases, the Federal Circuit held that the use of *per se* rules is improper in applying the test for obviousness under 35 U.S.C. 103. Rather, 35 U.S.C. 103 requires a highly fact-dependent analysis involving taking the claimed subject matter as a whole and comparing it to the prior art. To support a rejection under 35 U.S.C. 103, the collective teachings of the prior art must have suggested to one of ordinary skill in the art that, at the time the invention was made, applicant's claimed invention would have been obvious. In applying this test to the claims on appeal in *Ochiai* and *Brouwer*, the court held that there simply was no suggestion or motivation in the prior art to make or use novel, nonobvious products in the claimed processes. Consequently, the court overturned the rejections based upon 35 U.S.C. 103.

Interpreting the claimed invention as a whole requires consideration of all claim limitations. Thus, proper claim construction requires treating language in a process claim which recites the making or using of a nonobvious product as a material limitation. Motivation to make or use the nonobvious product must be present in the prior art for a 35 U.S.C. 103 rejection to be sustained. The decision in *Ochiai* specifically dispelled any distinction between processes of making a product and methods of using a product with regard to the effect of any product limitations in either type of claim.

parent application, that a precise starting material is not identified and noted the examiner's comment that said paragraph fails to disclose the unsaturation present in the starting material while observing that the appealed claims require a double bond between the 4 and 5 positions. We think the board was correct in finding a lack of support for the appealed claims in the parent application.

The several articles and the text relied upon by the appellant do not, in our opinion, overcome the insufficiency of the disclosure in the parent case with respect to the foregoing matters.

The foregoing considerations lead us to the conclusion that the invention disclosed in the appealed application was not in fact sufficiently disclosed in the parent application "in the manner provided in the first paragraph of section 112 of this title" to entitle appellant to rely on 35 U.S.C. § 120 to antedate the Colton et al. reference. For this reason, *and this reason only*, we *affirm* the decision of the board.

Affirmed.



50 CCPA

Application of Carl Louis OTTO, Lanelle Burnham Otto and Joan Briton.

Patent Appeal No. 6901.

United States Court of Customs and Patent Appeals.

Feb. 13, 1963.

Proceeding, at Serial No. 512,520, on application for patent for hair curlers. On an appeal from decision of the Patent Office Board of Appeals affirming the Primary Examiner's rejection of the

312 F.2d—594

claims in controversy, the Court of Customs and Patent Appeals, Martin, J., held that the claims were properly rejected as unpatentable.

Affirmed.

1. Patents ⇐33

On question of patentability of hair curlers the claims of which were directed to device and method of making device and not to method of curling hair wherein device was used, process of curling hair was irrelevant insofar as determination of whether claims were to be allowed or rejected.

2. Patents ⇐16.14

Claims of application for patent for hair curlers directed to method of making device were unpatentable for want of invention.

Clarence M. Fisher, Pennie, Edmonds, Morton, Barrows & Taylor, Washington, D. C. (John T. Roberts, Washington, D. C., of counsel), for appellants.

Clarence W. Moore, Washington, D. C. (Joseph F. Nakamura, Washington, D. C., of counsel), for Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Judges.

MARTIN, Judge.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the Primary Examiner's rejection of claims 1-4 of appellants' application Ser. No. 512,520 filed June 1, 1955 for HAIR CURLERS FOR PERMANENT WAVING AND MANUFACTURE THEREOF.

Claims 1 and 4, illustrative of the appealed claims, read:

"1. As a new article of manufacture, a core member for hair curlers comprising a body of elastically

resilient foam material, the hair being wound directly on said body and said body carrying a hair waving lotion in non-liquid form distributed in the pores of the material.

"4. The method of making a core member of the character described for hair curlers which comprises providing a body of elastically resilient foam material, saturating the body with a hair waving lotion con-

sisting of a water-soluble solution of saponified material and thereafter permitting the saturated body to dry, whereby to produce a body the pores of which are substantially impregnated with a waving solution in non-liquid form adapted to be activated by subsequent wetting of the body."

The references relied on by the examiner and the board are:

"Picard	1,219,147	Mar. 13, 1917
Banigan et al.	2,295,823	Sept. 15, 1942
Ramsey	2,418,664	Apr. 8, 1947
Moses	2,720,206	Oct. 11, 1955
Connolly	2,761,166	Sept. 4, 1956
Lyons	2,763,885	Sept. 25, 1956
L'Oreal (France)	966,988	Mar. 15, 1950"

Appellants' application relates to a core member for hair curlers. The body of the core member is made up of an elastically resilient foam material, e. g. a resinous polyurethane. It can be of any suitable shape, although the drawing shows it as cylindrical. A hair waving lotion, which may be a water-soluble mixture of thioglycolic acid and ammonia, in non-liquid form, is contained in the pores of the foam material. The lotion may be deposited by first saturating the core member with the lotion in solution form and thereafter permitting it to dry.

In use, the core member may have the tresses of hair wound on it while the core and hair are both dry. After the dry hair is wound on the dry core and fixed in place by appropriate retaining means, depending on the specific construction of the curler, the curler with the hair wound on it is then thoroughly wetted and manipulated by squeezing or twisting of the core member to force the lotion from the pores of the core member outwardly to saturate the hair wound on the curler.

The Moses patent discloses a hair curler provided with an absorbent pad member in the form of a cylinder of natural

sponge, viscose sponge or the like for holding a permanent wave solution to be squeezed out into the hair wound on the curler.

Each of the Connolly and Lyons patents relates to a core member of absorbent material provided with a dry dentifrice which is activated for use by contact with a liquid. Picard discloses a similar member impregnated with a dentifrice or antiseptic while Banigan et al. relates to sponges impregnated with numerous materials.

The Ramsey patent and the French patent to L'Oreal each discloses a cream for use in the permanent waving of hair. The cream comprises a base which may include an emulsifiable water-soluble mixture of thioglycolic acid and ammonia.

The examiner indicated that in the light of the teachings of Lyons, Picard, Connolly and Banigan et al. he did not see "that invention would be involved in providing the pores of a core, as shown in Moses, with a non-liquid lotion, to be activated by liquid at the time of use." The examiner further rejected the claims as unpatentable over any of Picard, Lyons and Banigan et al. in view of either Ramsey or L'Oreal taking the

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position that "it would not require invention to substitute the dry hair-waving compositions of either secondary reference for the dentifrice of each primary reference."

The board in affirming the rejection of the appealed claims stated:

" * * * We agree that the art used makes it obvious to incorporate in a sponge a material that has an unspecified degree of dryness (including the substantial degree of some of the art) that causes the material to be retained in the sponge and thus makes obvious doing this with hair waving material."

Appellants urge that the Moses core is not the article of manufacture which appellants claim. They contend that the Moses core is merely a wick inside of a perforated metal hair curler which when compressed will release liquid through the pores of the metal curler. Appellants also urge that the patents of Picard, Connolly and Lyons, which show a water-soluble dentifrice impregnated in a sponge body useful as a toothbrush and the Banigan et al. patent which mentions that artificial sponges may be impregnated with numerous materials "would not be reasonably expected to teach modifying the Moses curler." Appellants further contend that the cream lotion of Ramsey and L'Oreal will not work in their invention.

[1, 2] First of all it should be remembered that the claims are directed to a particular device and a method of making that device, not to a method of curling hair wherein this particular device is used. It seems appellants are endeavoring to predicate patentability upon a certain procedure for curling hair using this device and involving a number of steps in the process. This process is irrelevant as is the recitation involving the hair being wound around the core insofar as the determination of whether these particular claims should be allowed

or rejected. In re Lampert et al., 245 F.2d 253, 44 CCPA 958; In re Rishoi et al., 197 F.2d 342, 39 CCPA 1004; In re Mulholland, 129 F.2d 860, 29 CCPA 1222; In re Young, 75 F.2d 996, 22 CCPA 1060. It will be seen that the Lampert case pertains to the impropriety of relying on a method concept to distinguish a structural claim over the prior art and Rishoi and the others indicate that inclusion of the material or article worked upon by a structure being claimed does not impart patentability to the claims.

The particular device claimed is an elastically resilient "core member for hair curlers * * * carrying a hair waving lotion in non-liquid form distributed in the pores of the material." It should be noted at this point that no attaching means is recited in the claims.

Moses teaches a pad member which "is first charged with a curling liquid" to be inserted in a mandrel to be used for hair curling purposes. Picard, Banigan et al., Connolly and Lyons all teach impregnating sponge-like material with various substances for various purposes such as brushing teeth and polishing metalware. Connolly and Lyons teach impregnating a sponge-like material with *dry* substances to be activated by contact with a liquid. In view of these teachings we believe it would be within the skill of the art to apply those disclosures of Connolly and Lyons to Moses' pad. Since appellants' structure claims pertain only to a core or pad member and recite no means for attaching it to the hair, it is apparent that the invention does not distinguish over Moses' pad¹ in view of Connolly and Lyons insofar as the concept of impregnating the pores of a sponge-like pad with a dry substance, which pad is to be used in connection with hair curlers.

Appellants have never questioned that a hair curling composition, such as the water-soluble saponified thioglycolin-am-

plastic in lieu of Moses' sponge material and we see none.

1. There seems to be no contention on the part of appellants that patentability resides in the substitution of known foamed

monia mentioned in their application, can be provided in dry form. Therefore no issue arises with reference to that matter. However it should be noted that even though the creams of L'Oreal and Ramsey may contain ingredients of appellants' hair curling preparation, being in cream form, it would not be practicable to endeavor to impregnate a hair curling pad with them.

Although the structure claims do not recite any means by which the core member could be attached to the hair and thus the *manner* of its intended use is of no significance, it might be well to note that the Moses pad impregnated with a dry hair curling substance would be operable with a non-liquid solution. Thus the core could be used by dipping the mandrel containing the pad into water which would activate the hair curling substance in the pad and then the mandrel could be attached to the hair and the liquid would be squeezed from the pad through the perforations in the mandrel into the hair by means of the plunger activity associated with the locking device. There is no significance in the fact that the Moses pad would be moistened differently than appellants' since, as stated, methods are not involved here. For these reasons we affirm the rejection of claims 1, 2 and 3.

Coming to claim 4, the only aspect of the recited method which requires additional consideration reads:

" * * *, saturating the body with a hair waving lotion * * * and thereafter permitting the saturated body to dry, * * * adapted to be activated by subsequent wetting of the body."

It does not appear to us that it would be beyond the skill of an ordinary workman in this art who desires to impregnate a foam-like material with a liquid soluble substance to prepare that substance in liquid form then saturate the material with it. Upon the material and the substance becoming dry, the substance obviously would remain in the pores of the material until it is reactivated by being wetted. We feel certain

that this procedure takes place every day in the homes in this country where a housewife saturates a sponge with soapy water then permits the sponge to dry and, unless she has rinsed the sponge thoroughly, when she wets the sponge again the water squeezed therefrom will be soapy. For these reasons we affirm the rejection of claim 4.

In view of the foregoing we *affirm* the decision of the board.

Affirmed.



⁵⁰ CCPA
REPUBLIC STEEL CORPORATION,
Appellant,

v.

M.P.H. MANUFACTURING CORPORATION, Inc., Appellee.

Patent Appeal No. 6869.

United States Court of Customs
and Patent Appeals.

Feb. 13, 1963.

An application for registration of the trademark "TRUSS-SKIN" for sheet metal structural members for prefabricated buildings was opposed by the owner of the registered trademark "TRUSCON" for steel building products. The Trademark Trial and Appeal Board, Opposition No. 39,080, entered a decision dismissing the opposition, and the opposer appealed. The United States Court of Customs and Patent Appeals, Almond, J., held that the trademark "TRUSS-SKIN" was readily distinguishable from the registered trademark "TRUSCON" and was registerable.

Decision of Trademark Trial and Appeal Board affirmed.

1 Trade Regulation § 230

Court of Customs and Patent Appeals on appeal from decision of Trade-

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**DONALD G. RICHARDSON, Plaintiff/Appellant, v. SUZUKI MOTOR CO., LTD.
and U.S. SUZUKI MOTOR CORPORATION, Defendants/Cross-Appellants,
KAWASAKI HEAVY INDUST. LTD., KAWASAKI MOTORS CORP., YAMAHA
MOTOR CO., LTD., YAMAHA MOTOR CORP., U.S.A., KAYABA INDUSTRY
CO., LTD. and KAYABA INDUSTRY CO., Defendants**

Nos. 87-1497, 87-1498, 87-1502, 88-1083, 88-1084

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

868 F.2d 1226; 1989 U.S. App. LEXIS 1684; 9 U.S.P.Q.2D (BNA) 1913

February 16, 1989, Decided

SUBSEQUENT HISTORY:

As amended March 8, 1989; Rehearing Denied March 29, 1989.

PRIOR HISTORY:

[**1] Appealed from: U.S. District Court for the Central District of California, Judge Gray.

CASE SUMMARY

PROCEDURAL POSTURE: Parties appealed and cross-appealed from the judgment of the United States District Court for the Central District of California which involved issues of patent validity, infringement, breach of contract, fraud, misappropriation of trade secrets, and several related issues.

OVERVIEW: In an action involving patent validity, infringement, breach of contract, fraud, and misappropriation of trade secrets, jury verdicts held valid patent was infringed by defendant and majority of plaintiff's claims were not trade secrets. Both parties appealed. The court affirmed in part because a reasonable jury could have found patent was not invalid on grounds of anticipation since invalidity was not proved by clear and convincing evidence. Furthermore, on correct instructions no reasonable jury could have found claimed invention and accused structures were not equivalent, thus infringement was affirmed. Damages for patent infringement were vacated and remanded since improper instruction produced inadequate compensation. Order for new trial on trade secret violation was reversed since district court exceeded discretionary authority in vacating jury verdict and ordering new trial when

plaintiff had a prejudicially heavy burden of proving trade secrets. The denial injunction was reversed because irreparable harm was presumed with infringement.

OUTCOME: Judgment was affirmed, reversed, vacated, and remanded in part because patent was not proved invalid by clear and convincing evidence, irreparable harm existed with infringement, improper instruction produced inadequate damages, and new trial for defendant after plaintiff proved trade secrets under a prejudicially heavy burden was abuse of discretion.

CORE CONCEPTS

Civil Procedure : Jury Trials

Patent Law : Nonobviousness

A jury verdict on nonobviousness is at best advisory.

Civil Procedure : Jury Trials

Patent Law : Jurisdiction & Review

Use of an advisory jury is limited to actions not triable of right by a jury. In a similar circumstance wherein the trial court and the jury independently decided the same jury question, all fact findings of a jury are non-advisory, unless made in an area expressly removed from jury verdict.

Civil Procedure : Jury Trials

Patent Law : Novelty & Anticipation

Patent Law : Nonobviousness : Tests & Proof of Obviousness

The jury may decide the questions of anticipation and obviousness, either as separate special verdicts or en

route to a verdict on the question of validity, which may also be decided by the jury.

Civil Procedure : Jury Trials : Right to Jury Trial

Patent Law : Nonobviousness

No warrant appears for distinguishing the submission of legal questions to a jury in patent cases from such submissions routinely made in other types of cases. So long as the U.S. Const. amend. VII stands, the right to a jury trial should not be rationed, nor should particular issues in particular types of cases be treated differently from similar issues in other types of cases.

Civil Procedure : Jury Trials

Civil Procedure : Appeals : Standards of Review : Substantial Evidence Rule

The standards by which appellate courts review the judgment differ, depending on whether it arose from a jury or a bench trial. When the judgment arises from a jury verdict, the reviewing court applies the reasonable jury/substantial evidence standard: a standard that gives greater deference to the judgment simply because appellate review is more limited, compared with review of a trial judge's decision. The appellate court's function is exhausted when that evidentiary basis of the jury's verdict becomes apparent, it being immaterial that the court might draw a contrary inference or feel that another conclusion is more reasonable.

Patent Law : Infringement : Defenses

Invalidity must be proved by clear and convincing evidence, referring to the presumption of validity.

Patent Law : Novelty & Anticipation

An invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim. The identical invention must be shown in as complete detail as is contained in the patent claim.

Patent Law : Infringement : Burdens of Proof

Plaintiff bears the burden of proving infringement by a preponderance of the evidence.

Civil Procedure : Relief From Judgment : Motions for New Trial

Patent Law : Jurisdiction & Review

When faced with a claim that verdicts are inconsistent, the court must search for a reasonable way to read the verdicts as expressing a coherent view of the case, and must exhaust this effort before it is free to disregard the jury's verdict and remand the case for a new trial.

Civil Procedure : Relief From Judgment

Patent Law : Jurisdiction & Review : Standards of Review

The reviewing court is bound to find special verdicts consistent if it can do so under a fair reading of them. A fair reading of the special verdicts results from simply applying the rule that the consistency of the jury verdicts must be considered in light of the judge's instructions to the jury.

Civil Procedure : Jury Trials

The decision to submit interrogatories, and the precise language in which they are couched, can have an untoward effect on a verdict, if certain elements of the trial or the evidence are thereby overly emphasized in the jury's mind.

Patent Law : Specification & Claims

A device that embodies improvements on a claimed structure does not automatically avoid the reach of the claim. Each case must be decided on its particular facts, viewing the changes in the accused structure in light of the claimed invention.

Patent Law : Remedies : Damages

Patent Law : Jurisdiction & Review : Standards of Review

The court reviews an award for patent infringement damages on the reasonable jury/substantial evidence standard.

Patent Law : Jurisdiction & Review : Standards of Review

The court will reverse a judgment because of a mistake in jury instructions only if the error was prejudicial.

Patent Law : Remedies : Damages

35 U.S.C.S. § 284 provides that damages shall be adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer.

Civil Procedure : State & Federal Interrelationships : Application of State Law

Contracts Law : Performance & Conditions : Construction & Interpretation

In matters of contract law and interpretation the court applies the discernable law of the state.

Civil Procedure : Jury Trials : Jury Instructions

Civil Procedure : Appeals : Standards of Review

Instructions are reviewed to determine whether, viewing the jury instructions as a whole, the trial judge gave adequate instructions on each element of the case to ensure that the jury fully understood the issues.

Torts : Business & Employment Torts : Unfair Business Practices

The court affords protection against the use of plaintiff's trade secrets by those to whom they had been disclosed in confidence. Whether the idea was patented or not, plaintiff is entitled to such protection.

Torts : Business & Employment Torts : Unfair Business Practices

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article.

Torts : Business & Employment Torts : Unfair Business Practices

The burden of proof is placed on plaintiff to prove that his information met the legal requirements of a protectible trade secret. This in turn required either a covenant or a confidential relationship as a premise of relief.

Torts : Business & Employment Torts : Unfair Business Practices

It is not necessary in order that a process of manufacture be a trade secret that it be patentable or be something that could not be discovered by others by their own labor and ingenuity.

Torts : Business & Employment Torts : Unfair Business Practices

Secret formulas and processes are property rights which will be protected by injunction, not only as against those who attempt to disclose or use them in violation of confidential relations or contracts express or implied, but as against those who are participating in such attempt with knowledge of such confidential relations or contract, though they might in time have reached the same result by their own independent experiments or efforts.

Torts : Business & Employment Torts : Unfair Business Practices

Ninth Circuit law upholds trade secret status even had the same information been obtainable from other sources. Trade secrecy is not negated because defendant by an expenditure of effort might have collected the same information from sources available to the public.

Torts : Business & Employment Torts : Unfair Business Practices

Defendants cannot escape responsibility by showing that they have improved upon or modified the plaintiff's process; minor variations are to be expected.

Civil Procedure : Jury Trials***Civil Procedure : Appeals : Standards of Review******Torts : Business & Employment Torts : Unfair Business Practices***

In order to vacate the jury's verdict upholding trade secrets and grant a new trial thereon, the trial court must find that the jury's verdict is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial judge, a miscarriage of justice. It is insufficient that the district court would simply have reached a different verdict.

Civil Procedure : Relief From Judgment : Motions for New Trial***Civil Procedure : Appeals : Standards of Review : Abuse of Discretion***

The grant or denial of either a motion for a new trial or a motion to amend the judgment must be reviewed on the basis of a determination of whether the district court abused its discretion. Abuse of discretion may be established by showing that the district court either made an error of law, or a clear error of judgment, or made findings which were clearly erroneous.

Civil Procedure : Appeals : Reviewability

Absent formalities of post-trial motions, the court has no authority to review verdicts.

Civil Procedure : Appeals : Standards of Review

An appellate tribunal is abjured to determine whether a jury verdict can be sustained, on any reasonable theory. A successful party in the District Court may sustain its judgment on any ground that finds support in the record.

Patent Law : Remedies : Injunctions***Patent Law : Ownership & Transfer of Rights : Patents as Property***

Once infringement is established, it is contrary to the laws of property, of which the patent law partakes, to deny the patentee's right to exclude others from use of his property. 35 U.S.C.S. § 261.

Patent Law : Remedies : Injunctions

It is the general rule that an injunction will issue when infringement has been adjudged, absent a sound reason for denying it.

Patent Law : Remedies : Injunctions

In matters involving patent rights, irreparable harm has been presumed when a clear showing has been made of patent validity and infringement. This presumption

derives in part from the finite term of the patent grant, for patent expiration is not suspended during litigation, and the passage of time can work irremediable harm.

Civil Procedure : Relief From Judgment : Motions for New Trial

Civil Procedure : Jury Trials : Province of Court & Jury

Courts are not free to reweigh the evidence and set aside the jury verdict merely because the jury could have drawn different inferences or conclusions or because judges feel that other results are more reasonable.

Civil Procedure : Appeals : Reviewability

Civil Procedure : Jury Trials : Province of Court & Jury

The credibility of witnesses and the weight of the evidence are issues for the jury and are generally not subject to appellate review.

Torts : Damages : Punitive Damages

A jury assessment of punitive damages is not excluded in circumstances such as those where the jury expressly found fraud.

Torts : Damages : Punitive Damages

A breach of faith underlies every trade secret claim. However, establishing that breach alone is insufficient to warrant an award of punitive damages; one must also demonstrate that the defendant acted wantonly, willfully, or in reckless disregard of the plaintiff's rights.

Civil Procedure : Appeals : Standards of Review

Torts : Damages : Punitive Damages

The reviewing court gives the trial judge and jury wide discretion in assessing punitive damages.

Civil Procedure : Appeals : Standards of Review

Torts : Damages : Punitive Damages

A court will not overturn an award of punitive damages unless it appears that the jury was influenced by passion or prejudice.

Patent Law : Remedies

The presence of a further modification in one or two claims of a patent directed does not negate the imposition of an equitable remedy.

Patent Law : Remedies

Governments & Legislation : Courts : Authority to Adjudicate

The courts are not powerless to redress wrongful appropriation of intellectual property by those subject to the courts' jurisdiction.

Civil Procedure : Summary Judgment or Summary Adjudication : Summary Judgment Standard

To refuse to give an issue to the jury is to direct a verdict in favor of the opposing party. Thus the courts review the district court's ruling on the standard of whether the evidence permits only one reasonable conclusion after viewing the evidence in the light most favorable to the non-moving party and drawing all inferences in favor of that party.

Civil Procedure : Jury Trials : Province of Court & Jury

When trial is had to a jury, the issue should be decided by the jury.

COUNSEL:

Theresa A. Middlebrook, Wagner & Middlebrook, of Glendale, California, and Robert Driscoll, Driscoll & Tomich, of Glendale, California, argued for Plaintiff/Appellant. With them on the brief was John E. Wagner.

John A. Fogarty, Kenyon & Kenyon, of New York, New York, argued for Defendants/Cross-Appellants. With him on the brief were Richard S. Gresalfi and Dawn M. DiStefano. Also on the brief were Richard S. Rockwell, of Tustin, California, Duffern H. Helsing and Halina F. Osinski, of Santa Ana, California, of Counsel.

JUDGES:

Smith, Circuit Judges, Skelton, Senior Circuit Judge, and Newman, Circuit Judge.

OPINIONBY:

NEWMAN

OPINION:

[*1229] NEWMAN, Circuit Judge.

This appeal and cross-appeal are from the judgment of the United States District Court for the Central District of California, and involve issues of patent validity, infringement, breach of contract, fraud, misappropriation [*1230] of trade secrets, and several related issues. n1 We affirm in part, reverse in part, vacate in part, and remand.

n1 *Richardson v. Suzuki Motors Co. and Suzuki U.S. Motors Corp.*, Nos. CV 80-2589-WPG and CV 82-3826-WPG (C.D. Cal. June 29, 1987 and July 13, 1987).

[**2]

The Invention

The invention that led to this litigation is a motorcycle rear-wheel suspension system that smooths the ride over rough terrain, of interest particularly in off-road motorcycle riding. The roughness of the ride is due to bumps and dips in the terrain, transmitted from the wheels to the frame. An optimum rear-wheel suspension will maintain tire contact with the ground despite deflection by irregularities, will avoid "bottoming out" (an unsafe rising of the suspension), yet will achieve a smooth ride without reduction in safety. In 1974 even the best available suspensions did not maintain adequate tire contact with the ground in conjunction with attempts to eliminate bottoming out.

In mid-1974 Donald G. Richardson, a young mechanic in California, devised a solution to the problem, a modified suspension system that he installed in his own motocross motorcycle. Richardson replaced the conventional two-spring shock absorber suspension system with a system consisting of a single shock absorber plus a linkage consisting of a bell crank and connecting rod. This linkage generated a "rising rate" ⁿ² -- a characteristic critical to the issue -- and produced a far superior ride, ^[**3] even as it eliminated the dangerous bottoming out. Richardson testified about his first ride, at a hilly construction site near his house, as "utopia. I mean it was incredible"; over hard bumps it was "uncanny because it was so smooth"; "the rear end didn't kick up. It just didn't bottom out and stayed down"; an "unbelievable feeling".

ⁿ² "Rising rate" was described by witnesses as follows: "as the suspension travels upward, the resistance to upward travel will increase"; and it "gets stiffer as the wheel moves up toward the vehicle or moves upward in the frame."

On November 25, 1974 Richardson filed a United States patent application on his invention, and on September 23, 1975 the application issued as United States Patent No. 3,907,332 (hereinafter the '332 or Richardson patent). Patent claim 9, which incorporates claim 1, is the only claim in suit. Claims 1 and 9 follow:

1. A suspension for two wheeled vehicles comprising:

a frame for the vehicle comprising a generally closed shape including upper and lower portions and

a swing arm pivotally connected to the lower portion of said frame;

said swing arm comprising a pair of arms rotatably supporting a wheel about a horizontal ^[**4] axis generally at the end of said swing arm;

the pivotal mounting of said arm to said frame being about a generally horizontal axis whereby said wheel is both rotatable about its own horizontal axis and deflectable in a generally vertical direction about the axis of said swing arm;

spring means having a first end pivotally secured to said frame;

a link member including an intermediate point pivotally mounted on said frame about an axis, parallel to the axis of said swing arm at a point spaced therefrom;

pivotal connection means between said link member and the second end of said spring;

a bar pivotally connected at one end to said swing arm and at the opposite end to said link member at a position spaced from said spring connection;

said spring, bar, swing arm and link connected whereby deflection of said swing arm displaces said bar and rotates said link member to compress said spring.

9. The combination in accordance with claim 1 wherein said assembly provides a rising spring rate as a function of deflection of said swing arm.

Figure 2 of the '332 patent specification is illustrative:

[*1231] [SEE ILLUSTRATION IN ORIGINAL]

As the rear wheel is deflected upward by bumps in the terrain, ^[**5] the swing arm (32) that is pivotally connected at (34) to the motorcycle frame (21) rotates upward, pushing the compression rod (41) into the bell crank (42) that is pivotally secured (31) at its intermediate point to the motorcycle frame. The bell crank rotates on its pivot (31) and compresses, downward against the frame, a spring (46) that is pivotally connected at one end (45) to the bell crank, and at its other end (52) to the motorcycle frame. The interaction of these interconnected parts increases the force on the spring, increasing the rate of resistance to deflection of the wheel with increased movement of the wheel. This varying resistance is the "rising spring rate" of claim 9, and is illustrated in Figure 5 of the '332 patent:

[*1232] [SEE ILLUSTRATION IN ORIGINAL]

The Contract with Suzuki

In October 1978 Richardson entered into a one year Option and License Agreement with the Suzuki Motor Co., Ltd. of Japan ("Suzuki").

The Agreement gave Suzuki the exclusive right to test and evaluate Richardson's suspension, and the exclusive option to acquire an exclusive license to the '332 patent and Richardson's "proprietary technical information, know-how, inventions, and use data", [**6] collectively defined in the Agreement as the "Licensed Rights."

The Agreement required Richardson to disclose to Suzuki all technical information, know-how, inventions, use data and design specifications for his suspension, that he possessed or that he acquired during the option period. Suzuki agreed to preserve all such information in confidence, and not to use any of it "for any purpose other than to evaluate for commercial feasibility of manufacture and marketing during the Option Period." Suzuki agreed that this obligation of confidence continued if Suzuki did not exercise the option. Excepted from the confidentiality obligation was all information previously known to Suzuki or at any time generally known to the public.

The Agreement required Richardson to make prototypes of his suspension system for Suzuki's evaluation. Richardson installed his suspension in Suzuki's sample 1978 and 1979 model production motorcycles, and disclosed to Suzuki the technical information and know-how that he possessed, including improvements and other information that he developed during this period. He met frequently with Suzuki engineers and other Suzuki personnel in the United States and in Japan [**7] to communicate this information and generally to improve performance and to facilitate testing and evaluation.

There was testimony at trial of initial incredulity on the part of Suzuki engineers concerning Richardson's suspension, of Suzuki's past failures in designing a suspension with the desired characteristics, and of Suzuki's favorable response to the performance of Richardson's suspension. The evidence included internal Suzuki documents made while Suzuki was testing Richardson's suspension, stating that it would "take a long time", perhaps three years, for Suzuki to develop a satisfactory suspension.

In early 1979 Richardson and a colleague Cazort conceived an improvement in the linkage-generated rising rate suspension, which they called the "Alternate Shock Mount" and which they disclosed to Suzuki, accompanied by drawings and blueprints [*1233] made by Cazort. The difference from the structure described in the '332 patent is that in the Alternate Shock Mount the lower end of the spring is pivotally secured to the swing arm which is pivotally secured to the frame, instead of being pivotally secured directly to the frame, resulting in increased strength.

In May 1979 Richardson's first [**8] prototype for Suzuki, wherein Richardson, aided by Cazort, installed his suspension in a Suzuki 1978 production model, was successfully tested in Japan. Testimony at trial included statements attributed to Suzuki's test riders that they could see the bumps but not feel them, and other commentary evidencing a highly favorable reaction to Richardson's suspension.

It was a stipulated fact that after these tests Suzuki made the decision to place the linkage-generated rising rate suspension system into production, and started development work for this purpose.

On October 16, 1979 Suzuki filed a patent application in Japan. The corresponding United States patent, filed on October 8, 1980, claims the Alternate Shock Mount suspension as disclosed by Richardson, and also claims a modification made by Suzuki called the "criss-cross". Suzuki named two of its engineers, Hirohide Tamaki and Manabu Suzuki, as the inventors.

Suzuki twice requested and was granted one-month extensions of its Option and License Agreement with Richardson. In December 1979 Suzuki informed Richardson that it would not exercise the option.

In March 1980 Suzuki began competitive racing in the United States of Suzuki motorcycles [**9] using the Alternate Shock Mount suspension, which Suzuki named the "Full Floater". Suzuki met with marked racing success, the Full Floater receiving favorable publicity and high acclaim from the public. Extensive advertising was directed to the Full Floater rising rate suspension. The product achieved widespread commercial success.

Suzuki denied any obligation to Richardson.

Litigation

Richardson brought suit against Suzuki (Japan) and the U.S. Suzuki Motor Corporation in California state court, and was granted a preliminary injunction restraining the Suzuki companies from breach of the Option and License Agreement and requiring them to comply with the confidentiality terms thereof. At Suzuki's request the state court declined to enforce the injunction after U.S. Suzuki sued Richardson in federal court, seeking a declaratory judgment of invalidity and non-infringement of Richardson's '332 patent.

In 1982 Richardson filed a patent infringement action against the Suzuki companies and others. (Only the Suzuki companies remain as parties.) Richardson reasserted the state claims of breach of contract, breach of implied covenant of good faith and fair dealing, misappropriation of trade [**10] secrets, and fraud, and among other relief requested assignment of the patents obtained by Suzuki on the Alternate Shock Mount.

Suzuki counterclaimed for fraud and breach of contract by Richardson, based on asserted invalidity of the '332 patent.

The federal actions were consolidated and tried to a jury. After forty-seven days of a two-part trial the jury gave special verdicts on issues of liability and damages. The district court entered final judgment under Fed. R. Civ. P. 54(b) on the jury verdicts that the '332 patent was not invalid and was infringed by Suzuki, that nine of Richardson's eleven asserted trade secrets were not trade secrets, and that Richardson was not entitled to assignment of the Tamaki/Suzuki patents on the Alternate Shock Mount. The court also entered final judgment on the jury verdicts of damages for patent infringement and for Suzuki's use of certain of Richardson's information that the jury found were not trade secrets. The court denied prejudgment interest and attorney fees, and refused to grant an injunction.

The district court denied most of the parties' post-trial motions, but granted Suzuki's motion for a new trial on three issues that the jury had [**11] decided in favor of [1234] Richardson, upholding two of the eleven asserted trade secrets, finding fraud on the part of Suzuki, and assessing damages for fraud. The district court then entered a supplemental final judgment for immediate appeal of the issues that the court intended to retry, and certified three specific questions on these and related issues.

I

Validity of Richardson's '332 Patent

Suzuki asserts on appeal the invalidity of claim 9 on grounds of anticipation (35 U.S.C. § 102) and obviousness (35 U.S.C. § 103).ⁿ³ The district court, stating that questions of patent validity must be decided by the court, told the jury that its verdicts on this issue were advisory. Nevertheless the court duly entered the jury verdicts, including the answer YES to the question: "Under the facts and law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?" The court entertained, and denied, post-trial motions for judgment n.o.v. and for a new trial on the question of validity. The court also independently decided the question, upholding validity of the '332 patent.

ⁿ³ The additional aspects of adequacy of disclosure (35 U.S.C. § 112) and unenforceability for inequitable conduct, both decided in favor of Richardson, have not been appealed.

[**12]

The record provided to us doesn't show the origin of this discredited procedure of advisory verdicts, or whether either party objected. In *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 895 n.5, 221 USPQ 669, 674 n.5, (Fed. Cir.), cert. denied, 469 U.S. 857, 83 L. Ed. 2d 120, 105 S. Ct. 187 (1984), we observed that:

The view suggested in *Sarkisian v. Winn-Proof Corp.*, 688 F.2d 647, 651, (9th Cir. 1982), cert. denied, 460 U.S. 1052, 103 S. Ct. 1499, 75 L. Ed. 2d 930 (1983)], that a jury verdict on nonobviousness is at best advisory, would make charades of motions for directed verdict or JNOV under Fed. R. Civ. P. 50 in patent cases. These motions apply only to *binding* jury verdicts. ...

Moreover, use of an advisory jury is limited to actions not triable of right by a jury.

(emphasis in original, citations omitted). In a similar circumstance wherein the trial court and the jury independently decided the same jury question (in that case the question of willfulness of infringement) we remarked that "all fact findings of a jury are non-advisory, unless made in an area expressly removed from jury verdict." *Shiley, Inc. v. Bentley Laboratories, Inc.*, 794 F.2d 1561, 1568, 230 USPQ 112, 115 (Fed. Cir. 1986), cert. [**13] denied, 479 U.S. 1087, 107 S. Ct. 1291, 94 L. Ed. 2d 148 (1987).

It is established that the jury may decide the questions of anticipation and obviousness, either as separate special verdicts or en route to a verdict on the question of validity, which may also be decided by the jury. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1547, 220 USPQ 193, 197 (Fed. Cir. 1983):

No warrant appears for distinguishing the submission of legal questions to a jury in patent cases from such submissions routinely made in other types of cases. So long as the Seventh Amendment stands, the right to a jury trial should not be rationed, nor should particular issues in particular types of cases be treated differently from similar issues in other types of cases.

See also, e.g., *Vieau v. Japax, Inc.*, 823 F.2d 1510, 1515, 3 USPQ2d 1094, 1098 (Fed. Cir. 1987); *Verdegaal Brothers Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1052 (Fed. Cir.), cert. denied, 484 U.S. 827, 108 S. Ct. 95, 98 L. Ed. 2d 56 (1987); *Data Line Corp. v. Micro Technologies, Inc.*, 813 F.2d

1196, 1200, 1 USPQ2d 2052, 2054 (Fed. Cir. 1987); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986); [*14] *DMI, Inc. v. Deere & Co.*, 802 F.2d 421, 425-27, 231 USPQ 276, 279-80 (Fed. Cir. 1986); *Mainland Industries, Inc. v. Standal's Patents Ltd.*, 799 F.2d 746, 747-48, 230 USPQ 772, 773 (Fed. Cir. 1986); *Trans-World Mfg. Corp. v. Al* [*1235] *Nyman & Sons, Inc.*, 750 F.2d 1552, 1560, 224 USPQ 259, 263 (Fed. Cir. 1984); *Quaker City Gear Works, Inc. v. Skil Corp.*, 747 F.2d 1446, 1454-55, 223 USPQ 1161, 1165-66 (Fed. Cir. 1984), cert. denied, 471 U.S. 1136, 86 L. Ed. 2d 694, 105 S. Ct. 2676 (1985); *Weinar v. Rollform Inc.*, 744 F.2d 797, 805, 223 USPQ 369, 372 (Fed. Cir. 1984), cert. denied, 470 U.S. 1084, 85 L. Ed. 2d 143, 105 S. Ct. 1844 (1985); *Perkin-Elmer Corp.*, 732 F.2d at 894-95, 221 USPQ at 674; *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ (BNA) 473, 477 (Fed. Cir. 1984); *Railroad Dynamics, Inc. v. A. Stucki Company*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 935 (Fed. Cir.), cert. denied, 469 U.S. 871, 83 L. Ed. 2d 150, 105 S. Ct. 220 (1984); *White v. Jeffrey Mining Mach. Co.*, 723 F.2d 1553, 1558, 220 USPQ 703, 705 (Fed. Cir. 1983) ("Submission of such a question of law [obviousness] to a jury, accompanied by appropriate instructions, is proper."), cert. denied, 469 U.S. 825, 83 L. Ed. 2d 49, 105 S. Ct. 104 (1984). See generally H.T. Markey in *On Simplifying Patent* [*15] *Trials*, 116 F.R.D. 369, 370 (1987) ("There is neither reason nor authority for employing in a patent trial procedures and practices different from those employed in any other civil trial. Indeed, reason and authority mandate the contrary.")

Although the district court and the jury reached the same result, the standards by which appellate courts review the judgment differ, depending on whether it arose from a jury or a bench trial. *District of Columbia v. Pace*, 320 U.S. 698, 701, 88 L. Ed. 408, 64 S. Ct. 406, (1944) ("findings of fact by an equity court and the verdict of a jury have from time immemorial been subject to different rules of finality"). When the judgment arises from a jury verdict, the reviewing court applies the reasonable jury/substantial evidence standard: a standard that gives greater deference to the judgment simply because appellate review is more limited, compared with review of a trial judge's decision. *Id.* at 702. As summarized in *Lavender v. Kurn*, 327 U.S. 645, 653, 90 L. Ed. 916, 66 S. Ct. 740, (1946), "the appellate court's function is exhausted when that evidentiary basis [of the jury's verdict] becomes apparent, it being immaterial that the court might draw a contrary inference or feel that another conclusion [*16] is more reasonable." See generally M.B. Louis, *Allocating Adjudicative Decision Making Authority Between the Trial and Appellate Levels: A Unified View of the Scope*

of Review, The Judge/Jury Question, and Procedural Discretion, 64 N.C. L. Rev. 993 (1986).

The parties do not take a position on the district court's procedure, but appear to recognize that the issue of validity was properly for jury determination, for neither party refers to the district court's explanation of its independent determination of the question of obviousness.

In the interest of reaching an end to this protracted litigation, we have reviewed the judgment on the terms on which it reaches us. We have determined first whether Suzuki met its burden of showing on appeal that a reasonable jury could have reached the verdict of "valid" on the evidence before it. *Allen Organ Co. v. Kimball Int'l, Inc.*, 839 F.2d 1556, 1566, 5 USPQ2d 1769, 1777 (Fed. Cir.), cert. denied, 488 U.S. 850, 109 S. Ct. 132, 102 L. Ed. 2d 104 (1988); *DMI, Inc. v. Deere & Co.*, 802 F.2d 421, 425, 231 USPQ 276, 278 (Fed. Cir. 1986); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 618-19, 225 USPQ 634, 636 (Fed. Cir.), cert. dismissed, [*17] 474 U.S. 976, 106 S. Ct. 340, 88 L. Ed. 2d 326 (1985). Then, on the premise that the parties may have waived their right to a jury trial on this question by failure to object to the district court's procedure, we have considered whether the district court's independent judgment of validity may be sustained, on the standards applicable thereto. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir.) (obviousness determination in bench trial reviewed as a question of law based on underlying facts), cert. denied, 481 U.S. 1052, 107 S. Ct. 2187, 95 L. Ed. 2d 843 (1987).

The court correctly instructed the jury that invalidity must be proved by clear and convincing evidence, referring to the presumption of validity. *Perkin-Elmer* [*1236] *Corp.*, 732 F.2d at 894, 221 USPQ at 674; *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 756 F.2d 1556, 1559, 225 USPQ 253, 255 (Fed. Cir. 1985); *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 771 (Fed. Cir.), cert. denied, 469 U.S. 821, 83 L. Ed. 2d 41, 105 S. Ct. 95 (1984).

A. Anticipation

The district court correctly instructed the jury that an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior [*18] art reference. Every element of the claimed invention must be literally present, arranged as in the claim. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771-72, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026, 79 L. Ed. 2d 687, 104 S. Ct. 1284 (1984). The identical invention must be shown in as complete detail

as is contained in the patent claim. *Jamesbury Corp.*, 756 F.2d at 1560, 225 USPQ at 256; *Connell*, 722 F.2d at 1548, 220 USPQ at 198.

As prior art, Suzuki relied on the motorcycle suspensions described in certain patents to Downs and Warner, and on the race car wheel suspensions described for Tyrrell and McLaren race cars in two Road and Track magazine articles. Witnesses explained to the jury the similarities and differences between the invention of the '332 patent and each prior art reference. For example, the Downs suspension has a spring element that is rigidly attached to the motorcycle frame and does not pivot as is required by claim 9 of the '332 patent. The Warner reference shows a suspension having a bell crank that is pivotally mounted to the motorcycle frame but not at an intermediate point, whereas Richardson [**19] requires a mid-point pivot of the bell crank to the frame. Neither Downs nor Warner describes a rising rate. The magazine articles describe a four wheel racing car suspension system having a linkage-generated variable rising rate incorporating a bell crank, but instead of the swing arm of Richardson's motorcycle suspension, the race car systems use an A-shaped arm mounted to the side of an upright wheel; and the bell crank and linkage in the race car system is located beside the wheel, rather than in front of the wheel as in Richardson's motorcycle system.

Witnesses testified that rising rate in motorcycles had previously been obtained only by progressively wound springs and gas operated shock absorbers. Suzuki argued that rising rate is inherent in the Downs and Warner motorcycle suspensions and expressly described for race cars in the magazine articles, and also that rising rate is merely a statement of function, and thus should not be a basis for distinction from the prior art.

The jury found that Downs did not "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent". For the Warner reference, the jury could not reach a unanimous verdict on this same [**20] question, but answered NO to the question whether "the respective elements of Warner function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results". The jury found that the race car suspensions did "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent", but did not reach a unanimous verdict as to whether they "function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results."

The jury had erroneously been instructed that anticipation may be shown by equivalents, a legal theory that is pertinent to obviousness under Section 103, not to anticipation under Section 102. *Lewmar Marine, Inc. v.*

Barient, Inc., 827 F.2d 744, 747-48, 3 USPQ2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007, 108 S. Ct. 702, 98 L. Ed. 2d 653 (1988); *Connell*, 722 F.2d at 1548, 220 USPQ at 198. The jury requested a definition of "equivalent" during its deliberations, and was given the Webster's dictionary definition "corresponding or virtually identical, especially in effect or function." This narrow definition, which does not accord with that of *Graver Tank & Mfg. Co. [**21] v. Linde Air [**1237] Products Co.*, 339 U.S. 605, 608, 94 L. Ed. 1097, 70 S. Ct. 854, (1950), may have minimized the legal error in the instructions. In any event, the erroneous inclusion of equivalents in the anticipation inquiry favored Suzuki. The jury nonetheless answered YES to the special verdict: "Under the facts and law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?"

On the totality of the evidence and in light of the jury instructions and answers, we conclude that a reasonable jury could have found that the patent was not invalid on grounds of anticipation. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673-74 (review of presumed jury finding that anticipation not proved, based on jury verdict of validity).

Reviewing the analysis and decision of the district court, based on the same prior art, we discern no clear error in the court's conclusion that claim 9 was not invalid.

We affirm that claim 9 was not proved invalid on the ground of anticipation.

B. Obviousness

The issue of obviousness was vigorously litigated, Suzuki relying on the same Downs and Warner patents and magazine articles. The record shows that there was extensive testimony concerning the [**22] differences between Richardson's suspension and the prior art. Suzuki argued at trial, and repeats on this appeal, that these differences are trivial mechanical expedients.

The jury, among its special verdicts on the *Graham* factors, found that a person of ordinary skill in the pertinent art could be any of: (1) a motorcycle mechanic without formal technical education, (2) a person with experience in working on suspension systems for racing automobiles, but without formal technical training, (3) suspension system instructors, (4) professional motorcycle riders, and (5) someone possessing above-average mechanical skills. Suzuki argues that such a person is of generally high mechanical skill, and to such a person Richardson's rising rate motorcycle suspension would have been an obvious "adaption" of the race car suspension systems, which "suggests itself quite plainly,

since Downs and Warner incorporate bell cranks in their respective suspensions."

The jury was unable to reach a unanimous verdict on the question of whether a person of the level of skill found by the jury, presented with the problem and being familiar with all the prior art including these four specific references, [**23] but unaware of Richardson's device, would be "led to do" what Richardson did. In response to the ultimate question, as we have observed, the jury reached the unanimous verdict that "Under the facts and law as you believe that you understand them", claim 9 was "valid". The district court entered judgment on the jury verdicts, independently held the patent valid, and denied Suzuki's motions for judgment n.o.v. and for a new trial on the issue of validity.

The question for the jury was whether the challenger met the burden of proving invalidity by clear and convincing evidence; and the question on review is whether reasonable jurors could have concluded that the challenger failed to meet that burden. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986); *Perkin-Elmer Corp.*, 732 F.2d at 894-95, 221 USPQ at 674. The jury's lack of unanimity on certain special verdicts can reasonably be taken to mean, as the district court held, that invalidity had not been proved by clear and convincing evidence.

Our review shows that there was substantial evidence on which reasonable jurors could have concluded that claim 9 had not been proved [**24] invalid for obviousness, and thus reached the verdict of "valid". Although the district court erred in its belief that obviousness could only be presented to the jury for an advisory verdict, we may view the court's agreement with the jury verdict of validity as supporting the court's denial of Suzuki's post-trial motions for judgment n.o.v. and for a new trial. *Perkin-Elmer Corp.*, 732 F.2d at 895, 221 USPQ at 674-75. However it is viewed procedurally, no reversible error [*1238] has been shown in the court's conclusion that obviousness had not been proved and that claim 9 was not invalid.

The judgment of validity is affirmed.

II

Infringement

Richardson bore the burden of proving infringement by a preponderance of the evidence. The district court correctly stated that the jury was the finder of the fact of infringement.

The jury rendered special verdicts as to the Suzuki motorcycles before it, Model M having the Richardson/Cazort Alternate Shock Mount and Model C

having the "criss-cross" connection added by Suzuki, as follows:

9(a). Do defendant Suzuki's motorcycles of the Model M type ... infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

9(b). Do defendant [**25] Suzuki's motorcycles of the Model C type ... infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

In subparts 9(a)(2) and 9(b)(2) of the special verdict the jury answered YES to the question whether the Suzuki motorcycles produce substantially the same rising rate as taught in Richardson's patent.

The principal question on appeal is the meaning and effect of the jury answers to subparts (1) of the special verdict, which were directed "in particular" to the Alternate Shock Mount and the criss-cross modifications:

9(a)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, bearing in mind that the bottom of the spring in the former is affixed to the swing arm rather than to the frame?

Answer: NO

9(b)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, in light of the "criss-cross" of the connecting rods and the bell crank in the defendant's model, as well as the spring attachment to the swing arm, as compared with the plaintiff's Claim 9?

Answer: NO

The district court entered judgment of infringement in favor of Richardson and denied post-trial motions by both sides, including a motion by Richardson to reopen [**26] the record in order to present evidence on the doctrine of equivalents. The district court stated that the jury verdicts mean that "infringement is limited to 'rising rate'" and that the Suzuki and Richardson linkages are not equivalent.

Suzuki argues that special verdicts 9(a)(1) and 9(b)(1) require judgment of non-infringement; or, as a minimum, that these verdicts are inconsistent with the verdicts of infringement in 9(a) and 9(b), such that a new

trial is required of the entire issue. Richardson states that the verdicts can be understood, when viewed in light of the jury instructions, in a way that supports the judgments of infringement. Suzuki did not request a new trial on the basis of inconsistent verdicts at the time the judgments were entered, while Richardson moved, unsuccessfully, to amend or delete verdicts 9(a)(1) and 9(b)(1). Each party asserts that any inconsistency should be resolved in its favor.

The Ninth Circuit, in accordance with the general rule, requires trial and appellate courts to seek reconciliation of apparently inconsistent verdicts:

When faced with a claim that verdicts are inconsistent, the court must search for a reasonable way to read the verdicts [**27] as expressing a coherent view of the case, and must exhaust this effort before it is free to disregard the jury's verdict and remand the case for a new trial.

Toner v. Lederle Laboratories, 828 F.2d 510, 512 (9th Cir. 1987), cert. denied, 485 U.S. 942, 108 S. Ct. 1122, 99 L. Ed. 2d 282 (1988) (citing *Gallick v. Baltimore & Ohio R.R.*, 372 U.S. 108, 119, 9 L. Ed. 2d 618, 83 S. Ct. 659, (1963), also citing *Atlantic & Gulf Stevedores, Inc. v. Ellerman Lines, Ltd.*, 369 U.S. 355, 364, 7 L. Ed. 2d 798, 82 S. Ct. 780, (1962) and *Blanton v. Mobil Oil Corp.*, 721 F.2d 1207, 1213, (9th Cir. 1983), cert. denied, 471 U.S. 1007, 85 L. Ed. 2d 166, 105 S. Ct. 1874 [**1239] (1985)). See also *Allen Organ Co.*, 839 F.2d at 1563, 5 USPQ2d at 1775 (the appellate court must make every effort to harmonize the jury's answers).

The district court did not find the special verdicts inconsistent, apparently in the belief that the jury limited infringement to the rising rate provision of claim 9 but not the other claim clauses. This accords with the court's statement to the jury that the infringement was "minor" because it was limited to the rising rate. This interpretation pleased neither party. If we have correctly understood it, it is incorrect as a matter of law.

"We are bound to find the special verdicts consistent [**28] if we can do so under a fair reading of them." *Toner*, 828 F.2d at 512. A fair reading of the special verdicts results from simply applying the rule that "the consistency of the jury verdicts must be considered in light of the judge's instructions to the jury". *Toner*, 828 F.2d at 512. The instructions on infringement, and the specific questions asked by special verdict, were designed to resolve the issues raised at trial. There was testimony on both sides of Suzuki's assertion that its suspension was not the same as Richardson's because it

produced a different rising rate. We referred *supra* to special verdicts 9(a)(2) and 9(b)(2):

9(a)(2). Does defendant's Model M produce rising rate substantially the same as the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

9(b)(2). Does defendant's Model C produce rising rate substantially the same as the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

Another special verdict in the infringement section asked the jury:

11. Does claim 9 of the Richardson Patent describe the invention of a rising rate in terms of what the invention will do rather than in terms of physical [**29] arrangement?

Answer: NO

We conclude that the answer "yes, with the rising rate" in verdicts 9(a) and 9(b) is the jury's response to Suzuki's argument, rather than as a finding that only the rising rate claim limitation, and no other, is embodied in the Suzuki suspensions.

We discern no support in the record for the district court's conclusion that verdicts 9(a) and 9(b) meant that the rising rate was the only area of infringement. Structure corresponding to every element of every clause of claims 1 and 9 was identified by witnesses as embodied in the accused motorcycles. There was no real dispute that of the nine or eleven elements in these claims (depending on how counted), all but one were literally present. The dispute centered on one element, the attachment of the spring in the claim clause "spring means having a first end pivotally secured to said frame", since this was the clause affected by the modifications of the Alternate Shock Mount and the criss-cross. In the Alternate Shock Mount, as we have discussed, the spring is pivotally secured to a swing arm that in turn is pivotally secured to the frame, instead of being pivotally secured directly to the frame as is shown in the [**30] '332 specification.

Richardson argues that the spring can be either directly or indirectly pivotally secured to the frame, without avoiding literal infringement of the claim. Richardson alternatively argues that on a correct definition of the doctrine of equivalents, citing *Graver*

Tank, 339 U.S. at 608, these securements are equivalent because the structures are substantially the same and perform substantially the same function in the same way.

The jury had been given the dictionary definition that "equivalent" means "corresponding or virtually identical, especially in effect or function". This definition was reinforced by the phrasing of verdicts 9(a)(1) and 9(b)(1), wherein the question itself instructed the jury on the difference between the linkages, while remaining silent on the similarities.

This presentation was highly prejudicial. Indeed, these verdicts well illustrate the truism that the way a question is [*1240] asked can direct the answer. "The decision to submit interrogatories, and the precise language in which they are couched, can have an untoward effect on a verdict, if certain elements of the trial or the evidence are thereby overly emphasized in the jury's mind." *Weinar* [*31] v. *Rollform Inc.*, 744 F.2d 797, 809, 223 USPQ 369, 376 (Fed. Cir. 1984), cert. denied, 470 U.S. 1084, 85 L. Ed. 2d 143, 105 S. Ct. 1844 (1985).

Further, and equally prejudicial, special verdicts 9(a)(1) and 9(b)(1) isolated this specific claim element so that it was removed from the perspective that is obtained only when the claimed invention is viewed in its entirety. See, e.g., *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363, 219 USPQ (BNA) 473, 482 (Fed. Cir. 1983). We recently reemphasized in *United States Steel Corp. v. Phillips Petroleum Co.*, 865 F.2d 1247 slip op. at 13-14 (Fed. Cir. 1989), in discussing *Graver Tank*, that there is no error in considering "the principle of the claimed invention".

A device that embodies improvements on a claimed structure does not automatically avoid the reach of the claim. See, e.g., *Atlas Powder Co. v. E. I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1580, 224 USPQ (BNA) 409, 417 (Fed. Cir. 1984) (separately patentable improvement may also be an equivalent under the doctrine of equivalents); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 703, 218 USPQ 965, 967-68 (Fed. Cir. 1983) (infringement not avoided [*32] "merely by adding elements"), cert. denied, 464 U.S. 1042, 79 L. Ed. 2d 171, 104 S. Ct. 707 (1984). Each case must be decided on its particular facts, viewing the changes in the accused structure in light of the claimed invention. See generally *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934-35, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987), cert. denied, 485 U.S. 961, 108 S. Ct. 1226, 99 L. Ed. 2d 426 (1988), and cert. denied, 485 U.S. 1009, 108 S. Ct. 1474, 99 L. Ed. 2d 703 (1988); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1569-70, 231 USPQ 833, 840 (Fed. Cir. 1986), reh'g

denied, 846 F.2d 1369, 6 USPQ2d 1886 (Fed. Cir. 1988).

We conclude that the jury verdicts, viewed in light of the instructions, held that the Suzuki motorcycles with a rising rate infringed claim 9. We also conclude that on correct instructions no reasonable jury could have found that the claimed invention and the accused structures are not equivalent, on the established facts of record, applying the correct law of *Graver Tank*. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252, 91 L. Ed. 2d 202, 106 S. Ct. 2505, (1986) ("The mere existence of a scintilla of evidence in support of the plaintiff's position will be insufficient; there must be evidence on which the jury could reasonably [*33] find for the plaintiff."); *Pullman-Standard v. Swint*, 456 U.S. 273, 291-92, 72 L. Ed. 2d 66, 102 S. Ct. 1781, (1982) ("where findings [by the district court] are infirm because of an erroneous view of the law, a remand is the proper course unless the record permits only one resolution of the factual issue"); *Dana Corp. v. IPC Limited Partnership*, 860 F.2d 415, 419, 8 USPQ2d 1692, 1696 (Fed. Cir. 1988) (when there are sufficient established facts of record, appellate court has discretion to determine the merits of JNOV motion.)

The jury verdicts of infringement are supported by substantial evidence, and are upheld. The judgment of infringement is affirmed.

III

Damages for Patent Infringement

As damages for patent infringement the jury assessed a royalty of fifty cents per motorcycle. Richardson states that this royalty is unreasonably low, and resulted from erroneous and prejudicial jury instructions. We review the award on the reasonable jury/substantial evidence standard. *Shatterproof Glass Corp.*, 758 F.2d at 627-28, 225 USPQ at 643-44.

The court told the jury: "Now, I will sustain, I will uphold your verdict [of infringement], but in determining damages and determining any royalty, it seems to me [*34] that you must consider that the infringement was a relatively minor infringement." [*1241] This instruction derived, as we have discussed, from the erroneous interpretation of the verdicts as limited to the "rising rate" clause. We must determine whether this erroneous instruction was prejudicial to the jury's assessment of damages. The Ninth Circuit has stated that "we will reverse a judgment because of a mistake in jury instructions only if the error was prejudicial." *Smiddy v. Varney*, 665 F.2d 261, 265 (9th Cir. 1981), cert. denied, 459 U.S. 829, 74 L. Ed. 2d 66, 103 S. Ct. 65 (1982).

35 U.S.C. § 284 provides that damages shall be "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of

the invention by the infringer". *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d 1568, 1574, 7 USPQ2d 1606, 1612 (Fed. Cir. 1988). The jury was told that a royalty of \$ 2.00 per motorcycle with an annual minimum of \$ 70,000 had been agreed to by Suzuki and Richardson in the Option and License Agreement. There was testimony of much higher royalties paid by others for similar contributions to motorcycles. Suzuki presented testimony that the \$ 2.00 in the agreement [**35] does not apply, but should be the starting point for reducing the royalty because the infringement was minor.

We must assume that the jury followed the court's instruction that the infringement was minor. That instruction was a misinterpretation of the jury verdict of infringement, and it usurped the role of the jury. Absent this prejudicial instruction there was no reasonable basis on which reasonable jury could have found that fifty cents was a reasonable royalty.

The judgment of damages for patent infringement is vacated. We remand for retrial of the question.

IV

Richardson's Technical Information

Issues relating to Richardson's technical information were presented at trial on the legal theories of breach of contract and the tort of misappropriation of trade secrets. The district court concentrated the tort issues in presentation to the jury, apparently accepting Suzuki's position that it had complied with its contractual obligations to Richardson. The court thus required that Richardson prove the existence of legally protectible trade secrets and their misappropriation by Suzuki.

In the only special verdict on the contract issues, the jury found that Suzuki did not violate its [**36] duty of good faith and fair dealing in its relationship with Richardson. The jury instructions on the contractual relationship, however, are pertinent to, and intertwined with, the trade secret issues.

A. The Contractual Relationship

In matters of contract law and interpretation we apply the discernable law of the state of California. *Universal Gym Equipment, Inc. v. ERWA Exercise Equipment Ltd.*, 827 F.2d 1542, 1550, 4 USPQ2d 1035, 1040 (Fed. Cir. 1987). At trial Richardson pressed, unsuccessfully, the California law that a covenant of good faith and fair dealing is implied between parties to a contract. *Seaman's Direct Buying Service, Inc. v. Standard Oil Co.*, 36 Cal. 3d 752, 768, 686 P.2d 1158, 1166, 206 Cal. Rptr. 354, 363 (1984) ("It is well settled that, in California, the law implies in every contract a

covenant of good faith and fair dealing." (Emphasis in original)).

The contract between Richardson and Suzuki was explained at trial, including the clause wherein Suzuki agreed not to use or disclose the "technical information, know-how, inventions, use data, and design specifications" that it received from Richardson. In discussing whether Suzuki was restrained [**37] in its post-contract use of Richardson's information, the district court at first instructed the jury that Suzuki was entitled by law "to use the most efficient means, even though they got it from plaintiff", stating that only "valid trade secrets" were subject to the contractual restraints:

And then after Suzuki's election not to take a license, of course, they were not supposed to use the plaintiff's trade secrets. That's what the contract says. And once again, you're going to have to determine whether these eleven were valid [*1242] trade secrets. To what extent did the defendant use them, to what extent would the defendant otherwise have developed them.

Now, some of these trade secrets refer to the best alignments and designs. Well, it seems incongruous to say to the defendant they cannot use the best because the best was intentionally disclosed by the plaintiff, and even though experimentation by the defendant surely would have revealed the best as the patent says that it would.

Were the defendants precluded from using the best or were they obliged to use something less efficient. I can't conceive of the defendants not being entitled to use the most efficient means, even though they [**38] got it from the plaintiff.

The court later qualified this position by referring to reverse engineering as being improper -- although it is far from clear what a reasonable jury would have understood from the court's instructions:

But on further reflection, I have to acknowledge that if you find there was a confidential relationship or contract that prohibited Suzuki from using the plaintiff's trade secrets, technical information or know-how, inventions or use data that the plaintiff gave them, unless it exercised the option, if you find those things to be true, I suppose it would be improper for Suzuki to reverse engineer from Richardson's prototypes, or from trade secrets or other information that he gave them.

The defense of reverse engineering does not apply to information received in confidence or whereas here the information is given under a contract.

Reviewing these instructions in the context of the contract and trade secret questions that were before the jury, we conclude that the jury was incorrectly instructed on the law. See *Bulgo v. Munoz*, 853 F.2d 710, 714 (9th Cir. 1988) (quoting *Los Angeles Memorial Coliseum Comm'n v. National Football League*, 726 F.2d 1381, [**39] 1398 (9th Cir.), cert. denied, 469 U.S. 990, 105 S. Ct. 397, 83 L. Ed. 2d 331 (1984)) (instructions reviewed to determine "whether, viewing the jury instructions as a whole, the trial judge gave adequate instructions on each element of the case to ensure that the jury fully understood the issues.")

In *Universal Gym Equipment*, 827 F.2d at 1549, 4 USPQ2d at 1040, we affirmed liability under California law based on breach of contract, when the parties contracted to limit the use by the recipient of "features, designs, technical information, or know-how" disclosed under the contract. We also affirmed that such a contractual arrangement is not incompatible with the patent law, *id.* at 1550, 4 USPQ2d at 1041, an issue on which the district court in Richardson's case also appears to have been misled, and to have misled the jury. See *Components for Research, Inc. v. Isolation Products, Inc.*, 241 Cal. App. 2d 726, 730, 50 Cal. Rptr. 829, 832 (1966) ("The judgment here but affords protection against the use of plaintiff's trade secrets by those to whom they had been disclosed in confidence. Whether the idea was patented or not, plaintiff is entitled to such protection").

The district court erred [**40] in law, in limiting the scope of protected information beyond that set forth in the contract, and in its instructions to the jury as to Suzuki's obligations. These errors are reflected in the trade secret issues.

B. The trade secret issues

The jury, despite the excessively restrictive instructions on what were trade secrets, found that certain items that Suzuki had received from Richardson were trade secrets and had been misappropriated, and assessed damages therefor. The jury also assessed damages for use by Suzuki of certain other items that did not "rise to the dignity of trade secrets", in the words of the special verdicts.

Richardson specified eleven items that he had disclosed to Suzuki under the contract, and that he asserted to be trade secrets; to wit: (1) the optimal characteristics of a motorcycle rear-wheel suspension shock absorber, showing three external adjustments, (2) engineering drawings of his proposed and furnished suspension systems, [*1243] (3) 1978 and 1979 Suzuki motorcycles modified by Richardson with his rising rate suspension, (4) specific force-velocity curves needed to obtain the advantages of Richardson's invention in

Suzuki's motorcycles, (5) design modifications [**41] to extend rear wheel travel over earlier rising-rate designs, (6) design of the Alternate Shock Mount including drawings and knowhow, (7) the optimum use and types of certain bearings in the suspension, (8) motorcycle testing and tuning criteria, (9) his bell crank designs and design criteria, (10) adjustments in the angles and dimensions of the parts of the suspension and their effect on performance, and (11) the straight line tubular motorcycle frame.

The California law of trade secrets follows the Restatement definition:

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. ... Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article.

By-Buk Co. v. Printed Cellophane Tape Co., 163 Cal. App. 2d 157 at 166, 329 P.2d 147 at 152, 118 USPQ 550 at 553 (1958), citing Restatement (First) of Torts, § 757 comment b (1939). The court in *By-Buk Co.* reaffirmed "plaintiff's right not to have its [trade secret] processes wrongfully disclosed to others and used to its detriment." *Id.* at 167, [**42] 329 P.2d at 153, 118 USPQ at 553.

The burden of proof was placed on Richardson to prove that his information met the legal requirements of a protectible trade secret. *Forro Precision, Inc. v. International Business Machines Corp.*, 673 F.2d 1045, 1056-57, 215 USPQ 299, 305-6 (9th Cir. 1982). This in turn required "either a covenant or a confidential relationship" as a premise of relief. *Futurecraft Corp. v. Clary Corp.*, 205 Cal. App. 2d 279, 283, 23 Cal. Rptr. 198, 207-208 (1962) (discussing elements of trade secret protection). Richardson met this requirement through his contractual covenant.

The district court told the jury, several times, that because Suzuki might have developed or could have developed on its own the information it received from Richardson, such information can not be protected as a trade secret. The court said: "Now I think we must assume that the defendant could have accomplished whatever the plaintiff may have contributed toward the development of Models M and C." Whatever the validity of the proposed assumption as to Suzuki's abilities, the court's conclusion is contrary to California law:

It is not necessary in order that a process [**43] of manufacture be a trade secret that it be patentable or be

something that could not be discovered by others by their own labor and ingenuity.

By-Buk Co., 163 Cal. App. 2d at 166, 329 P.2d at 152, 118 USPQ at 553. Nor does the possibility of independent discovery relieve Suzuki of liability:

"Secret formulas and processes *** are property rights which will be protected by injunction, not only as against those who attempt to disclose or use them in violation of confidential relations or contracts express or implied, but as against those who are participating in such attempt with knowledge of such confidential relations or contract, though they might in time have reached the same result by their own independent experiments or efforts."

Id. at 167, 329 P.2d at 153, 118 USPQ at 553-54 (quoting *Herold v. Herold China & Pottery Co.*, 257 F. 911, 913 (6th Cir. 1919)). Indeed, Suzuki did not argue that it had actually developed on its own the information that it first received from Richardson. Although Richardson adduced evidence that Suzuki had been unable to solve this problem, it is not relevant what Suzuki might have been able to do on its own. Ninth Circuit law [**44] upholds trade secret status even had the same information been obtainable from other sources. *Clark v. Bunker*, 453 F.2d 1006, 1010, 172 USPQ (BNA) 420, 423 (9th Cir. 1972) (trade secrecy "is not negated because defendant by an expenditure of effort might have collected the [*1244] same information from sources available to the public.") (footnote omitted).

The court also erroneously instructed the jury that "slavish" copying is necessary for misappropriation, and that an exercise of independent judgment would remove the information from protection. The court instructed the jury to consider: "Were they secrets. And, second, did the defendants slavishly use them or did they make up their own minds." These views are contrary to California law. "Defendants cannot escape responsibility by showing that they have improved upon or modified the plaintiff's process." *By-Buk Co.*, 163 Cal. App. 2d at 169, 329 P.2d at 154, 118 USPQ at 554. The court observed in *Sinclair v. Aquarius Electronics, Inc.*, 42 Cal. App. 3d 216, 222, 116 Cal. Rptr. 654, 659, 184 USPQ 682, 684 (1974) that minor variations are to be expected.

Suzuki argued to the jury, and repeats on appeal, that information [**45] that Richardson developed after issuance of the '332 patent, including the Alternate Shock Mount, is barred from trade secret status because it was generally disclosed in Richardson's patent or

known to the general public, or because it merely implements the patented invention.

The legal status of information and improvements made after a patent application has been filed is independent of the presence, or absence, of the patent application or ensuing patent. The information and improvements may be separately patentable; they may be preserved in confidence and disclosed only in accordance with agreement; and they are protected against misappropriation in accordance with the laws of contract and tort. The court misstated the law in telling the jury that the jury could decide whether Richardson could have both a valid patent and legal protection for later-developed information on the patented invention:

So on the one hand [Richardson] says the ordinary person skilled in the art can take this patent and use it and make a machine based upon it. But, on the other hand, he says, however, the experimentation and the ability to do this constitutes trade secrets for which you must pay me. [**46] Now, that constitutes a dilemma and it's up to you to determine the extent to which Mr. Richardson may claim as trade secrets things that the ordinarily prudent person skilled in the art should be able to do on his own.

The district court's phrase "should be able to do on his own" may explain its misperception of the law. It is not known what Suzuki was able to do on its own, for Suzuki not only sought Richardson's knowhow, improvements, data, and information, but also agreed to respect the confidentiality thereof. This information is intellectual property in the eyes of the law, and is protected in accordance with law. See generally *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 493, 40 L. Ed. 2d 315, 94 S. Ct. 1879 (1974). See also *Components for Research, Inc.*, 241 Cal. App. 2d at 730, 50 Cal. Rptr. at 832 (whether the product design was patented or not, plaintiff is entitled to trade secret protection for manufacturing process); *Sinclair*, 42 Cal. App. 3d at 225, 116 Cal. Rptr. at 660, 184 USPQ at 686 ("Trade secret law encourages invention in areas where patent law does not reach"). *Accord Thermotics, Inc. v. Bat-Jac Tool Co., Inc.*, 541 S.W.2d 255, 261, 193 USPQ 249, 253 (Tex. Civ. App. 1976) (post-patent [**47] improvement protectable under trade secret law); *Franke v. Wiltschek*, 209 F.2d 493, 495, 99 USPQ (BNA) 431, 433 (2d Cir. 1953) (immaterial that defendants could have derived trade secrets from expired patent).

It is apparent that the court imposed a higher standard for trade secret status than is contained in California law. The court's instructions, commentary, and phrasing of the special verdicts not only placed a

prejudicially heavy burden on Richardson, but also demeaned the information itself.

Despite this prejudicial environment, the jury found that items 5 and 6 were trade secrets and had been misappropriated by Suzuki, and assessed damages therefore. The jury also found that items 1-4 and 7-11 were not trade secrets, and that for some but not all of these items compensation [*1245] should be awarded based on "benefit from the plaintiff's knowledge and from the time and effort expended by him".

The district court granted Suzuki's motion for a new trial with respect to items 5 and 6, and upheld the jury verdicts with respect to items 1-4 and 7-11.

C. The new trial of items 5 and 6

The grant of a new trial is ordinarily not reviewable, but on this issue the district court entered final [*48] judgment for purposes of appeal, and certified three questions. The first certified question is:

1. Were the plaintiff's asserted trade secrets Nos. 5 and 6: (a) Actually valid proprietary trade secrets, as the jury found and awarded very substantial royalties; or (b) Did the plaintiff's contributions in these respects represent no more than the services of a skilled mechanic, which readily could have been duplicated by the defendant, and which entitled the plaintiff only to quantum meruit compensation, as the court believes; or (c) Were the plaintiff's contributions no more than those contemplated under the option agreement and paid for by the defendant, as the defendant contends?

We respond to this question: From the record before us the jury verdict that items 5 and 6 met the requirements for trade secret protection was supported by the great weight of the evidence. Richardson and Cazort testified about the design modifications that were the subject of item No. 5 and the Alternate Shock Mount subject of item No. 6. The Alternate Shock Mount was considered sufficiently novel and valuable that Suzuki included it in a patent application filed in Japan and later in the United States. [*49] The record does not negate the jury's determination of the value of this information. According to California law it is immaterial what Suzuki could have done, for it chose to use Richardson's information, which it obtained under restraint.

In further response, we remark that the relation between the parties, set by contract, was a routine commercial arrangement wherein Richardson agreed to facilitate Suzuki's testing and evaluation of Richardson's invention. This did not convert Richardson's work in adapting his invention to Suzuki's motorcycle into the

work of a hired technician whose work product was automatically owned by Suzuki. The proprietary nature of the work done and information provided by Richardson was established by agreement, as was the agreement that Suzuki would not use this information if it did not exercise its option.

There was substantial evidence before the jury that the information on items 5 and 6 was not publicly known, that Suzuki agreed to receive and preserve it in confidence, and that the information fully satisfies the statutory and jurisprudential requirements for protectible trade secrets.

In order to vacate the jury's verdict upholding items 5 and [*50] 6 as trade secrets and grant a new trial thereon, the trial court must find that the jury's verdict "is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial judge, a miscarriage of justice." *Hanson v. Shell Oil Co.*, 541 F.2d 1352, 1359 (9th Cir. 1976), cert. denied, 429 U.S. 1074, 50 L. Ed. 2d 792, 97 S. Ct. 813 (1977) (quoting *Moist Cold Refrigerator Co. v. Lou Johnson Co.*, 249 F.2d 246, 256, 115 USPQ 160, 168-69 (9th Cir. 1957), cert. denied, 356 U.S. 968, 2 L. Ed. 2d 1074, 78 S. Ct. 1008 (1958)); *William Inglis & Sons Baking Co. v. ITT Continental Baking Co., Inc.*, 668 F.2d 1014, 1027 (9th Cir. 1981), cert. denied, 459 U.S. 825, 74 L. Ed. 2d 61, 103 S. Ct. 57, 103 S. Ct. 58 (1982). It is insufficient that the district court would simply have reached a different verdict.

Our review requires determination of whether the district court abused its discretion in its decision to grant the new trial. *Id.* See *Transgo, Inc. v. Ajac Transmission Parts Corp.*, 768 F.2d 1001, 1014, 227 USPQ 598, 602 (9th Cir. 1985), cert. denied, 474 U.S. 1059, 88 L. Ed. 2d 778, 106 S. Ct. 802 (1986) ("the grant or denial of either a motion for a new trial or a motion to amend the judgment must be reviewed on the basis of a determination [*51] of whether the district court abused its discretion.") [*1246] See generally *Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 756 F.2d 1574, 1581, 225 USPQ 357, 363 (Fed. Cir. 1985) ("Abuse of discretion may be established by showing that the district court either made an error of law, or a clear error of judgment, or made findings which were clearly erroneous.") The district court's statements, for example with respect to item 5, "I simply cannot conclude that that is a trade secret. It was an attempt to help Suzuki adapt the Richardson concept to the Suzuki machine ...", reflect an error of law.

Despite the legal error in the instructions, as we have discussed, any prejudice resulting therefrom favored Suzuki, not Richardson. We conclude that the district court exceeded its discretionary authority in vacating the

jury verdict and ordering a new trial. That action is reversed, and the jury verdict is reinstated as to items Nos. 5 and 6, including the damages assessed for items Nos. 5 and 6.

D. Items 1-4 and 7-11

For asserted trade secrets Nos. 1-4 and 7-11, the jury may well have been led by erroneous instructions into applying an incorrect legal standard, in finding that these [**52] items were not trade secrets. It appears, however, that Richardson did not move for judgment n.o.v. or a new trial on these verdicts. Although there is a hint in the post-trial colloquy that the court intended or was willing to retry all the trade secret issues along with items 5 and 6, this does not satisfy the rule, supported by logic, that the formalities of post-trial motions be respected. *Snellman v. Ricoh Co.*, 836 F.2d 528, 534, 5 USPQ2d 1341, 1346 (Fed. Cir. 1987) (applying Ninth Circuit law in holding that motions for judgment n.o.v. and for a new trial must be made). Thus we have no authority to review these verdicts.

By special verdict the jury was also asked to assess damages for Suzuki's use of the information encompassed in each of items 1-4 and 7-11, even if the information did not "rise to the dignity of trade secrets". The jury determined this sum for each item, some at \$ 0, the highest at \$ 25,000, for a total of \$ 104,000. The district court sustained this award, on a theory of "quantum meru it compensation". Both parties appeal this award, Richardson asserting its inadequacy, and Suzuki arguing that Richardson was fully paid for his information in the option [**53] agreement, and is not entitled to damages for Suzuki's use of any information received from Richardson.

We have rejected, as a matter of law, Suzuki's theory that it is entitled to use, free, the information disclosed by Richardson under the option agreement. Richardson's disclosures were made under terms that prohibited their use by Suzuki if the option was not exercised. This contract provision does not depend on whether the information is a trade secret, but only on whether it was previously known to Suzuki or generally known to the public, as discussed *ante*.

An appellate tribunal is abjured to determine whether a jury verdict can be sustained, on any reasonable theory. *Jaffke v. Dunham*, 352 U.S. 280, 281, 1 L. Ed. 2d 314, 77 S. Ct. 307 (1957) ("A successful party in the District Court may sustain its judgment on any ground that finds support in the record.")

There was substantial evidence at trial whereby a reasonable jury could have determined the sums awarded by this jury. Indeed, Suzuki does not challenge the

valuations of the damage awards for items 1-11, arguing instead that nothing at all is owing.

The judgment as to items 1-4 and 7-11 is affirmed, including damages assessed for these items in [**54] the total amount of \$ 104,000.

V

Injunction

The district court, having entered final judgment that the Suzuki Full Floater suspension infringed claim 9 of the '332 patent, denied Richardson's motion for injunction.

Infringement having been established, it is contrary to the laws of property, of [*1247] which the patent law partakes, to deny the patentee's right to exclude others from use of his property. 35 U.S.C. § 261. "The right to exclude recognized in a patent is but the essence of the concept of property". *Connell*, 722 F.2d at 1548, 220 USPQ at 198 (citing *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983)).

It is the general rule that an injunction will issue when infringement has been adjudged, absent a sound reason for denying it. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1281, 6 USPQ2d 1277, 1283 (Fed. Cir. 1988). Suzuki has presented no such reason. This court stated in *H.H. Robertson Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 390, 2 USPQ2d 1926, 1929-30 (Fed. Cir. 1987), when reviewing an injunction granted *pendente lite*:

In matters involving patent rights, irreparable harm has been presumed when a clear showing [**55] has been made of patent validity and infringement. *Smith International*, 718 F.2d at 1581, 219 USPQ at 692. This presumption derives in part from the finite term of the patent grant, for patent expiration is not suspended during litigation, and the passage of time can work irreparable harm.

We observe that the '332 patent will expire in less than four years, that litigation started over eight years ago, and that the district court remarked that further proceedings could consume "several years".

Further, a misappropriator of trade secrets has no authorization of right to continue to reap the benefits of its wrongful acts. Richardson is entitled to an injunction against Suzuki's continuing use of trade secrets Nos. 5 and 6. *By-Buk Co.*, 163 Cal. App. 2d at 167, 329 P.2d at 153, 118 USPQ at 553-54; *Components for Research, Inc.*, 241 Cal. App. 2d at 730, 50 Cal. Rptr. at 832.

The denial of Richardson's request for injunction is reversed. On remand the district court shall enter appropriate injunctive relief.

VI

Fraud

The jury found by special verdicts that Suzuki fraudulently induced Richardson to reveal his trade secrets by concealing its intention not to exercise its [**56] option or take a license, and that Suzuki fraudulently concealed from Richardson the fact that it was developing the Full Floater "with the intention of declining to exercise the option and then nevertheless to utilize the plaintiff's trade secrets in the full floater". The jury also found fraud in that Suzuki filed the Tamaki patent application "in the knowledge that the invention asserted therein (the spring/swing arm connection) was first disclosed to them by Richardson". The jury awarded Richardson \$ 20,000 in compensatory and \$ 100,000 in punitive damages.

The district court vacated the judgment and ordered a new trial. Suzuki asserts that the court should have granted Suzuki's motion for judgment n.o.v. instead of ordering a new trial, while Richardson asserts that the court should have upheld the jury verdicts.

The district court certified the question of how to treat its belief that Suzuki did not commit the offenses of fraud and concealment found by the jury, including the question of punitive damages. We first must consider whether a reasonable jury could have reached the verdicts here reached. *Lavender v. Kurn*, 327 U.S. at 653. Apt is the statement of the Ninth Circuit [**57] in *Crocker-Citizens Nat'l Bank v. Control Metals Corp.*, 566 F.2d 631, 635 (9th Cir. 1977): "Courts are not free to reweigh the evidence and set aside the jury verdict merely because the jury could have drawn different inferences or conclusions or because judges feel that other results are more reasonable", quoting *Cockrum v. Whitney*, 479 F.2d 84, 86 (9th Cir. 1973), in turn quoting *Tennant v. Peoria & P. U. Ry. Co.*, 321 U.S. 29, 35, 88 L. Ed. 520, 64 S. Ct. 409 (1944).

The record shows that there was testimony, based on certain of Suzuki's documents, on which a reasonable jury [**1248] could have supported these verdicts. There were issues of credibility, and inferences that could reasonably have been drawn in a manner adverse to Suzuki. "The credibility of witnesses and the weight of the evidence are issues for the jury and are generally not subject to appellate review." *Benigni*, 853 F.2d at 1525. While the district court may have believed that Suzuki did not commit fraud, review shows that the requirements for vacating the jury verdicts and relitigating the issue were not met. *Hanson*, 541 F.2d at

1359; *William Inglis*, 668 F.2d at 1027. A fresh trial is not warranted simply because the district [**58] court would have reached a different verdict.

A jury assessment of punitive damages is not excluded in circumstances such as those here presented, where the jury expressly found fraud. *Tri-Tron Int'l v. Velto*, 525 F.2d 432, 437, 188 USPQ 177, 181 (9th Cir. 1975) ("where compensatory damages are sought and awarded, the court has power, on a proper record, to award punitive damages"), citing *Clark v. Bunker*, 453 F.2d 1006, 1012, 172 USPQ (BNA) 420, 424 (9th Cir. 1972), in turn citing *El Rancho, Inc. v. First Nat'l Bank*, 406 F.2d 1205, 1218 (9th Cir. 1968), cert. denied, 396 U.S. 875, 90 S. Ct. 150, 24 L. Ed. 2d 133 (1969) (jury verdict awarding punitive damages was supported by evidence of malice) and *Davenport v. Mutual Benefit Health & Accident Ass'n*, 325 F.2d 785, 787 (9th Cir. 1963) (remand for trial to allow evidence of fraud to support claim of punitive damages.)

The district court correctly instructed the jury as to the law, stating that "it's only if you find that the defendants' conduct stem from malice, oppression, fraud or bad faith that you can find any punitive damage at all." As stated in *In re Innovative Construction Systems, Inc.*, 793 F.2d 875, 889, 230 USPQ 94, 104 (7th Cir. 1986): [**59]

[A] breach of faith underlies every trade secret claim. However, establishing that breach alone is insufficient to warrant an award of punitive damages; one must also demonstrate that the defendant acted wantonly, willfully, or in reckless disregard of the plaintiff's rights. (Citations omitted)

See also *Neal v. Farmers Insurance Exchange*, 21 Cal. 3d 910, 928, 582 P.2d 980, 986, 148 Cal. Rptr. 389, 395 (1978) ("In order to justify an award of exemplary damages, the defendant must be guilty of oppression, fraud or malice. (Civ. Code § 3294.) He must act with the intent to vex, injure or annoy, or with a conscious disregard of the plaintiff's rights") (quoting *Silberg v. California Life Insurance Co.*, 11 Cal. 3d 452, 462, 521 P.2d 1103, 1110, 113 Cal. Rptr. 711, 718 (1974)); *Reynolds Metals Co. v. Lampert*, 316 F.2d 272, 275 (9th Cir. 1963), cert. denied, 376 U.S. 910, 11 L. Ed. 2d 608, 84 S. Ct. 664 (1964) (in jury trial, evidence to justify punitive damages must show injury was done maliciously or willfully and wantonly or committed with bad motive or recklessly); *Transgo, Inc.*, 768 F.2d at 1024 (The determination to award punitive damages was "within the exclusive province of the jury") (quoting [**60] *Runge v. Lee*, 441 F.2d 579, 584, 169 USPQ 388,

392 (9th Cir.), *cert. denied*, 404 U.S. 887, 30 L. Ed. 2d 169, 92 S. Ct. 197 (1971)).

The jury having found by special verdicts that Suzuki acted fraudulently, the requisite intent was established. "We give the trial judge and jury wide discretion in assessing punitive damages." *Hatrock v. Edward D. Jones & Co.*, 750 F.2d 767, 772 (9th Cir. 1984). The jury's award was not "so disproportionate to the damages sustained as to be the result of passion or prejudice". *Id.* (citing *Neal*, 21 Cal. 3d at 928, 582 P.2d at 990, 148 Cal. Rptr. at 399). *Transgo, Inc.*, 768 F.2d at 1024 ("We will not overturn such an award unless it appears that the jury was influenced by passion or prejudice.") (citing *Harmsen v. Smith*, 693 F.2d 932, 947 (9th Cir. 1982), *cert. denied*, 464 U.S. 822, 78 L. Ed. 2d 97, 104 S. Ct. 89 (1983)).

We answer the certified question that, in this case, neither a new trial nor judgment n.o.v. was warranted. The order of a new trial on this issue is vacated. The judgment on the jury verdicts of fraud and the award of compensatory and punitive damages is reinstated.

[*1249] VII

The Tamaki Patent

Richardson states that Suzuki fraudulently patented the Alternate Shock Mount [*61] that had been disclosed to Suzuki by Richardson and Cazort, in a patent that also described the "criss-cross" modification developed at Suzuki. There was evidence and argument on the factual premises, including the absence of supporting documentation on the part of the named inventors Hirohide Tamaki and Manabu Suzuki, the earliest record on their behalf being dated October 1979. The corresponding Japanese patent application was filed on October 16, 1979.

The jury rendered the following special verdicts:

C-3. Did Suzuki and/or Mr. Tamaki file the Tamaki patent application in the knowledge that the invention asserted therein (the spring/swing arm connection) was first disclosed to them by Richardson:

Answer: YES

H-1. Do you find that the Plaintiff, Richardson, is the real inventor of the invention shown in the Tamaki patents and patent applications?

Answer: NO

It was not significantly disputed at trial that claims 1 through 8 of the Tamaki corresponding United States

Patent No. 4,457,393 cover the Alternate Shock Mount of Richardson and Cazort, and that claim 9 includes the criss-cross embodiment of Tamaki and Suzuki. (The scope of claim 5 is raised, but is not material to our conclusion.) [*62]

The district court denied Richardson's post-trial motion that the Tamaki patent be assigned to Richardson. In colloquy with counsel the court explained that it could not do so because "the jury said Richardson wasn't the inventor". Indeed it was conceded, and discussed at trial, that Richardson and Cazort, not Richardson alone, invented the Alternate Shock Mount. Cazort, as well as Richardson, testified at length on this structure. Special verdict H-1 that Richardson is not "the real inventor" is in accord with the co-inventor status of Cazort, and also with the Japanese contribution of the criss-cross embodiment.

The force of special verdict C-3 is not diminished. This verdict was not challenged on appeal. "It was further the duty of the court to direct the appropriate judgment to be entered upon the special verdict." *Traders and General Insurance Co. v. Mallitz*, 315 F.2d 171, 175 (5th Cir. 1963). The district court having failed to implement this verdict, Richardson's motion for judgment and for assignment of the Tamaki patents was not out of order.

The remedy of assignment of the Tamaki patents is a different question from whether Richardson is a sole or joint inventor. The [*63] correction of inventorship is an administrative step, and is not before the court. Similarly, the presence of a further modification in one or two claims of the patent directed to the Alternate Shock Mount does not negate the imposition of an equitable remedy. To hold otherwise would ratify and indeed reward the wrongdoing.

Based on the jury verdict, Richardson is entitled to ownership of the patents as against Suzuki. Such remedy is appropriate under the circumstances; *see, e.g., Colgate-Palmolive Co. v. Carter Products, Inc.*, 230 F.2d 855, 865, 108 USPQ 383, 391 (4th Cir.), *cert. denied*, 352 U.S. 843, 1 L. Ed. 2d 59, 77 S. Ct. 43 (1956) (corporate assignee of patent application ordered to assign to original holder of trade secrets all rights to patent applications based thereon); *De Long Corp. v. Lucas*, 176 F. Supp. 104, 134 (S.D.N.Y. 1959), *aff'd*, 278 F.2d 804 (2nd Cir.), *cert. denied*, 364 U.S. 833, 5 L. Ed. 2d 58, 81 S. Ct. 71 (1960) (when an employee has acquired patents on inventions developed by his former employer, "the courts will hold the wrongdoer to be a constructive trustee of the property misappropriated and will order a conveyance by the wrongdoer to the former employer"); *Becher v. Contoure Laboratories*, [*64] *Inc.*, 279 U.S. 388, 73 L. Ed. 752, 49 S. Ct. 356 (1929)

(same); *Saco-Lowell Shops v. Reynolds*, 141 F.2d 587, 598, 61 USPQ 3, 13 (4th Cir. 1944) (requiring assignment of patent [*1250] based on ideas received by licensee from licensor in confidence during development of invention for market).

Suzuki argues that Richardson has no remedy other than by seeking an interference in the United States Patent and Trademark Office with his own invention, and presumably by taking similar actions, if such are available, in other countries. We do not agree. The courts are not powerless to redress wrongful appropriation of intellectual property by those subject to the courts' jurisdiction.

The denial of Richardson's motion for judgment is reversed. Suzuki shall assign to Richardson the patents filed by Suzuki that include the Richardson/Cazort invention of the Alternate Shock Mount, in all countries. We remand to the district court for the purpose of implementing compliance.

VIII

Prejudgment Interest

The district court denied Richardson's request for prejudgment interest on both the patent infringement and the trade secret damage awards. Prejudgment interest is the rule governing this class of award. *General Motors Corp.* [*65] v. *Devex Corp.*, 461 U.S. 648, 655, 217 USPQ 1185, 1188, 76 L. Ed. 2d 211, 103 S. Ct. 2058 (1983); *Lummus Industries, Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 274, 8 USPQ2d 1983, 1988 (Fed. Cir. 1988); *Fromson*, 853 F.2d at 1573-74, 7 USPQ2d at 1611; *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 967, 1 USPQ2d 1191, 1193 (Fed. Cir. 1986), cert. denied, 482 U.S. 915, 107 S. Ct. 3187, 96 L. Ed. 2d 675 (1987).

No exceptional circumstances having been shown, and no reason why damages for misappropriated trade secrets should be treated differently from damages for patent infringement, the denial of prejudgment interest is reversed.

IX

Willful Infringement and Exceptional Case

The district court refused to submit the question of willful infringement to the jury, stating that Richardson had not provided sufficient evidence to go to the jury.

To refuse to give an issue to the jury is to direct a verdict in favor of the opposing party. Thus we review the district court's ruling on the standard of "whether the evidence permits only one reasonable conclusion after viewing the evidence in the light most favorable to the

non-moving party and drawing all inferences in favor of that party." *Bulgo v. Munoz*, 853 F.2d 710, [*66] 714 (9th Cir. 1988) (citing *Peterson v. Kennedy*, 771 F.2d 1244, 1256 (9th Cir. 1985), cert. denied, 475 U.S. 1122, 90 L. Ed. 2d 187, 106 S. Ct. 1642 (1986)). See also *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

Richardson refers to the evidence adduced in connection with the jury verdicts of fraud, to the verdicts of misappropriation of trade secrets 5 and 6, to the absence of any opinion of United States counsel concerning validity of the '332 patent when Suzuki started its infringing activity, and to evidence from Suzuki's records tending to show bad faith. Viewing this evidence in the light most favorable to Richardson, and drawing all reasonable inferences in his favor, there was sufficient evidence to take to the jury, for the evidence does not require a verdict in favor of Suzuki. Absent sufficient basis for directing the verdict, Richardson has the right of jury determination of this factual question. Willfulness of behavior is a classical jury question of intent. *Shiley*, 794 F.2d at 1568, 230 USPQ at 115; *Hammerquist v. Clarke's Sheet Metal, Inc.*, 658 F.2d 1319, 1325-26, 212 USPQ (BNA) 481, 486 (9th Cir. 1981), cert. denied, 460 U.S. 1052, 103 S. Ct. 1499, 75 L. Ed. 2d 930 (1983). When trial is had to a jury, the issue should [*67] be decided by the jury.

We remand for this purpose. The jury's findings on the issue of willfulness will be pertinent not only to the question of multiplication of damages under 35 U.S.C. § 284, but also to determination of whether this is an exceptional case in terms of 35 U.S.C. § 285. Entitlement under California [*1251] Civil Code § 3426 et seq. may also be considered.

X

Other Arguments

Both sides have raised many points in their briefs, disputing most aspects of the proceedings. We have considered all arguments in reaching our conclusions.

Costs

The award by the trial court of only one third costs to Richardson, in view of the judgments in his favor on the major substantive issues, exceeded the trial court's discretionary authority. Richardson is entitled to his statutory costs incurred before the district court. The reduction thereof is reversed.

Costs on this appeal are taxed in favor of Richardson.

AFFIRMED IN PART, REVERSED IN PART,
VACATED IN PART, AND REMANDED

FULL TEXT OF CASES (USPQ2D)

All Other Cases

**Verdegaal Brothers Inc. v. Union Oil Company of California (CA FC)
2 USPQ2d 1051 Verdegaal Brothers Inc. v. Union Oil Company of
California**

U.S. Court of Appeals for the Ninth Circuit
2 USPQ2d 1051

Decided March 12, 1987

No. 86-1258

Headnotes

PATENTS

1. Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)

Federal district court erred in denying patent infringement defendant's motion for judgment n.o.v., in view of evidence demonstrating that claims for making urea-sulfuric acid fertilizer, including claims that reaction be conducted in "heat sink" of recycled fertilizer to prevent high temperature buildup, were anticipated by prior art patent that specifically detailed process for making such urea-sulfuric acid products and that explicitly taught that base or "heel" of recycled fertilizer can be used to make more of product, even if patentee of prior art did not recognize that heel functioned as heat sink, since heat sink property was inherently possessed by heel.

Particular patents -- Fertilizers

4,310,343, Verdegaal and Verdegaal, Process for Making Liquid Fertilizer, holding of validity and infringement reversed.

Case History and Disposition:

Page 1051

Appeal from District Court for the Eastern District of California, Coyle, J.

Action by Verdegaal Brothers Inc., William Verdegaal, and George Verdegaal, against Union Oil Company of California, and Brea Agricultural Services Inc., for patent infringement. From decision denying defendants' motion for judgment notwithstanding the verdict, defendants appeal. Reversed.

Attorneys:

Andrew J. Belansky of Christie, Parker & Hale (David A. Dillard, with him on the brief), all of Pasadena, Calif., for appellants.

John P. Sutton of Limbach, Limbach & Sutton (Michael E. Dergosits, with him on the brief), all of San Francisco, Calif., for appellees.

Judge:

Before Markey, Chief Judge, and Davis and Nies, Circuit Judges.

Opinion Text**Opinion By:**

Nies, Circuit Judge.

Union Oil Company of California and Brea Agricultural Services, Inc. (collectively Union Oil) appeal from a judgment of the United States District Court for the Eastern District of California, No. CV-F-83-68 REC, entered on a jury verdict which declared U.S. Patent No. 4,310,343 ('343), owned by Verdegaal Brothers, Inc., "valid" and claims 1, 2, and 4 thereof infringed by Union Oil. Union Oil's motion for judgment notwithstanding the verdict (JNOV) was denied. We reverse.

I

BACKGROUND***The General Technology***

The patent in suit relates to a process for making certain known urea-sulfuric acid liquid fertilizer products. These products are made by reacting water, urea (a nitrogen-containing chemical), and sulfuric acid (a sulfur-containing chemical) in particular proportions. The nomenclature commonly used by the fertilizer industry refers to these fertilizer products numerically according to the percentages by weight of four fertilizer constituents in the

following order: nitrogen, phosphorous, potassium, and sulfur. Thus, for example, a fertilizer containing 28% nitrogen, no phosphorous or potassium, and 9% sulfur is expressed numerically as 28-0-0-9.

The Process of the '343 Patent

The process disclosed in the '343 patent involves the chemical reaction between urea

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and sulfuric acid, which is referred to as an exothermic reaction because it gives off heat. To prevent high temperature buildup, the reaction is conducted in the presence of a nonreactive, nutritive heat sink which will absorb the heat of reaction. Specifically, a previously-made batch of liquid fertilizer -- known as a "heel" -- can serve as the heat sink to which more reactants are added. Claims 1 and 2 are representative:

1. In a process for making a concentrated liquid fertilizer by reacting sulfuric acid and urea, to form an end product, the improvement comprising:
 - a. providing a non-reactive, nutritive heat sink, capable of dissipating the heat of urea and sulfuric acid, in an amount at least 5% of the end product,
 - b. adding water to the heat sink in an amount not greater than 15% of the end product,
 - c. adding urea to the mixture in an amount of at least 50% of the total weight of the end product,
 - d. adding concentrated sulfuric acid in an amount equal to at least 10% of the total weight of the end product.
2. The process of claim 1 wherein the heat sink is recycled liquid fertilizer.

Procedural History

Verdegaal brought suit against Union Oil in the United States District Court for the Eastern District of California charging that certain processes employed by Union Oil for making liquid fertilizer products infringed all claims of its '343 patent. Union Oil defended on the grounds of noninfringement and patent invalidity under 35 U.S.C. §§102, 103. The action was tried before a jury which returned a verdict consisting of answers to five questions. Pertinent here are its answers that the '343 patent was "valid" over the prior art, and that certain of Union Oil's processes infringed claims 1, 2, and 4 of the patent. None were found to infringe claims 3 or 5. Based on the jury's verdict, the district court entered judgment in favor of Verdegaal.

Having unsuccessfully moved for a directed verdict under Fed. R. Civ. P. 50(a), Union Oil timely filed a motion under Rule 50(b) for JNOV seeking a judgment that the claims of the '343 patent were invalid under sections 102 and 103. The district court denied the motion without opinion.

II

ISSUE PRESENTED

Did the district court err in denying Union Oil's motion for JNOV with respect to the validity of claims 1, 2, and 4 of the '343 patent?

III

Standard of Review

When considering a motion for JNOV a district court must: (1) consider all of the evidence; (2) in a light most favorable to the non-moving party; (3) drawing all reasonable inferences favorable to that party; (4) without determining credibility of the witnesses; and (5) without substituting its choice for that of the jury's in deciding between conflicting elements of the evidence. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 936 (Fed. Cir.), *cert. denied*, 469 U.S. 871 [224 USPQ 520] (1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed. Cir. 1983). A district court should grant a motion for

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JNOV only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. *Railroad Dynamics*, 727 F.2d at 1513, 220 USPQ at 936; *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

To reverse the district court's denial of the motion for JNOV, Union Oil must convince us that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury in forming its verdict. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), *cert. denied*, 469 U.S. 857 [225 USPQ 792] (1984). *Railroad Dynamics*, 727 F.2d at 1512, 220 USPQ at 936. Substantial evidence is more than just a mere scintilla; it is such relevant evidence from the record taken as a whole as a reasonable mind might accept as adequate to support the finding under review. *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938); *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *SSIH Equip. S.A. v. U.S. Int'l Trade Comm'n*, 718 F.2d 365, 371 n.10, 218 USPQ 678, 684 n.10 (Fed. Cir. 1983). A trial court's denial of a motion for JNOV must stand unless the evidence is of such quality and weight that reasonable and fair-minded persons in the exercise of impartial judgment could not reasonably return the jury's verdict. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed. Cir. 1984).

Our precedent holds that the presumption of validity afforded a U.S. patent by 35

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U.S.C. § 282 requires that the party challenging validity prove the facts establishing invalidity by clear and convincing evidence. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 770 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [224 USPQ 520] (1984). Thus, the precise question to be resolved in this case is whether Union Oil's evidence is so clear and convincing that reasonable jurors could only conclude that the claims in issue were invalid. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 935.

Anticipation

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [224 USPQ 520] (1984). Union Oil asserts that the subject claims of the '343 patent are anticipated under 35 U.S.C. § 102(e) 1 by the teachings found in the original application for U.S. Patent No. 4,315,783 to Stoller, which the jury was instructed was prior art.

From the jury's verdict of patent validity, we must presume that the jury concluded that Union Oil failed to prove by clear and convincing evidence that claims 1, 2, and 4 were anticipated by the Stoller patent. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Under the instructions of this case, this conclusion could have been reached only if the jury found that the Stoller patent did not disclose each and every element of the claimed inventions. Having reviewed the evidence, we conclude that substantial evidence does not support the jury's verdict, and, therefore, Union Oil's motion for JNOV on the grounds that the claims were anticipated should have been granted.

The Stoller patent discloses processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers. Example 8 of Stoller specifically details a process for making 30-0-0-10 urea-sulfuric acid products. There is no dispute that Example 8 meets elements b, c, and d of claim 1, specifically the steps of adding water in an amount not greater than 15% of the product, urea in an amount of at least 50% of the product, and concentrated sulfuric acid in an amount of at least 10% of the product. Verdegaaal disputes that Stoller teaches element a, the step of claim 1 of "providing a non-reactive, nutritive heat sink." As set forth in claim 2, the heat sink is recycled

fertilizer. 2

The Stoller specification, beginning at column 7, line 30, discloses:

Once a batch of liquid product has been made, it can be used as a base for further manufacture. This is done by placing the liquid in a stirred vessel of appropriate size, adding urea in sufficient quantity to double the size of the finished batch, adding any water required for the formulation, and slowly adding the sulfuric acid while stirring. Leaving a heel of liquid in the vessel permits further manufacture to be conducted in a stirred fluid mass.

This portion of the Stoller specification explicitly teaches that urea and sulfuric acid can be added to recycled fertilizer, i.e., a heel or base of previously-made product. Dr. Young, Union Oil's expert, so testified. Verdegaaal presented no evidence to the contrary.

Verdegaaal first argues that Stoller does not anticipate because in Stoller's method sulfuric acid is added *slowly*, whereas the claimed process allows for rapid addition. However, there is no limitation in the subject claims with respect to the rate at which sulfuric acid is added, and, therefore, it is inappropriate for Verdegaaal to rely on that distinction. *See SSIH*, 718 F.2d at 378, 218 USPQ at 689. It must be assumed that slow addition would not change the claimed process in any respect including the function of the recycled material as a heat sink.

Verdegaaal next argues that the testimony of Union Oil's experts with respect to what

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Stoller teaches could well have been discounted by the jury for bias. Discarding that testimony does not eliminate the reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process may be used to make more of the product.

[1] Verdegaaal raises several variations of an argument, all of which focus on the failure of Stoller to explicitly identify the heel in his process as a "heat sink." In essence, Verdegaaal maintains that because Stoller did not recognize the "inventive concept" that the heel functioned as a heat sink, Stoller's process cannot anticipate. This argument is wrong as a matter of fact and law. Verdegaaal's own expert, Dr. Bahme, admitted that Stoller discussed the problem of high temperature caused by the exothermic reaction, and that the heel could function as a heat sink. 3 In any event, Union Oil's burden of proof was limited to establishing that Stoller disclosed the same process. It did not have the additional burden of proving that Stoller recognized the heat sink capabilities of using a heel. Even assuming Stoller did not recognize that the heel of his process functioned as a heat sink, that property was inherently possessed by the heel in his disclosed process, and, thus, his process anticipates the claimed invention. *See In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971). The pertinent issues are whether Stoller discloses the process of adding urea and sulfuric acid to a previously-made batch of product, and whether that base would in fact act as a heat sink. On the entirety of the record, these issues could only be resolved in the affirmative.

On appeal Verdegaaal improperly attempts to attack the status of the Stoller patent as prior art, stating in its brief: Verdegaaal also introduced evidence at trial that the Stoller patent is not prior art under 35 U.S.C. §§ 102(e)/103. Professor Chisum testified that the Stoller patent, in his opinion, was not prior art. . . . This conclusion finds support in *In re Wertheim*, 646 F.2d 527 [209 USPQ 554] (CCPA 1981), and 1 Chisum on Patents §3.07[3]. Appellee Brief at 27 (record cite omitted). Seldom have we encountered such blatant distortion of the record. A question about the status of the Stoller disclosure as prior art did arise at trial. Union Oil asserted that, even though the Stoller patent issued after the '343 patent, Stoller was prior art under section 102(e) as of its filing date which was well before the filing date of Verdegaaal's application. Professor Chisum never testified that the Stoller patent was *not* prior art, but rather, stated that *he did not know* whether it was prior art. An excerpt from the pertinent testimony leaves no doubt on this point:

Q. (Mr. Sutton): And do you know whether the Stoller patent is prior art to the application of the Verdegaaal patent?

A. (Prof. Chisum): I don't know that it is, no.

We find it even more incredible that Verdegaaal would attempt to raise an issue with respect to the status of the

Stoller patent given that the case was submitted to the jury with the instruction that the original Stoller patent application was prior art. 4 Verdegaal made no objection to that instruction below, and in its appeal briefs, the instruction is cavalierly ignored.

In sum, Verdegaal is precluded from arguing that the Stoller patent should not be considered prior art. *See* Fed. R. Civ. P. 51; *Weinar v. Rollform Inc.*, 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed. Cir. 1984), *cert. denied*, 105 S.Ct. 1844 (1985); *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 615, 222 USPQ 654, 662 (Fed. Cir.), *cert. denied*, 469 U.S. 1038 (1984). 5

After considering the record taken as a whole, we are convinced that Union Oil established anticipation of claims 1, 2, and 4 by clear and convincing evidence and that no reasonable juror could find otherwise. Consequently, the jury's verdict on validity is unsupported by substantial evidence and

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cannot stand. Thus, the district court's denial of Union Oil's motion for JNOV must be reversed.

Conclusion

Because the issues discussed above are dispositive of this case, we do not find it necessary to reach the other issues raised by Union Oil. 6 In accordance with this opinion, we reverse the portion of the judgment entered on the jury verdict upholding claims 1, 2, and 4 of the '343 patent as valid under section 102(e) and infringed.

REVERSED

Footnotes

Footnote 1. Section 102(e) provides:

A person shall be entitled to a patent unless--

.....
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent

.....
Footnote 2. Claim 4 is written in terms of approximate percentages of all reactants by weight of the end product. No argument is made that the process of claim 4 would result in a fertilizer product any different from that disclosed by Example 8 of Stoller.

Footnote 3. There is no dispute that the percentage of heel described in Stoller meets the percentage of heat sink required by the claims.

Footnote 4. The jury instruction read:

Stoller filed two patent applications -- an original application on October 30th, 1978, and a second on February 7th, 1980. Under the patent laws, the claims of the '343 patent are invalid if you find that the original application (Exhibit BL) anticipates the process claimed in the '343 patent.

Footnote 5. Union Oil also argues that Verdegaal's counsel misled the jury by its closing rebuttal argument: but I think it's important to keep in mind that [Stoller] couldn't have been a prior patent because it issued a month after the Verdegaal patent had issued.

We disapprove of Verdegaaal's tactic which would form the basis for a grant of a motion for a new trial but for our conclusion that outright reversal of the ruling on the motion for JNOV is in order.

Footnote 6. It should not be inferred that all of these issues were properly before us. Union Oil appears to assume that on appeal it may dispute the resolution of any *issue* which is denominated an "issue of law" even though it was not raised in its motion for JNOV. This is incorrect. *See Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 934.

- End of Case -

cable that an omission of an element together with the omission of its function does not constitute a patentable change.

We are of the opinion that the claims here involved do not read upon the Miles reference, and we are likewise of the opinion that the modifications of the Miles device necessary to meet the claims here involved would not be obvious to one skilled in the art.

We therefore hold that the decision of the Board of Appeals should be, and is, reversed.

Reversed.



22 C. C. P. A. (Patents)

In re YOUNG.

Patent Appeal No. 3432.

Court of Customs and Patent Appeals.

March 25, 1935.

Patents 16

Certain claims of application for patent on machine employing roller molding action in making reinforced concrete beams held properly rejected for want of invention.

Appeal from Board of Appeals of United States Patent Office, Serial No. 412,654.

Application for patent by Howard F. Young. From a decision of the Board of Appeals of the United States Patent Office affirming a decision of the Examiner which rejected certain claims of the application, applicant appeals.

Affirmed.

Chappell & Earl, of Kalamazoo, Mich., for appellant.

T. A. Hostetler, of Washington, D. C. (Howard S. Miller, of Washington, D. C., of counsel), for Commissioner of Patents.

Before GRAHAM, Presiding Judge, and BLAND, HATFIELD, GARRETT, and LENROOT, Associate Judges.

GARRETT, Associate Judge.

This is an appeal from a decision of the Board of Appeals of the United States Patent Office, affirming the decision of the Examiner, rejecting six claims (Nos. 4 to 9 in-

clusive) of appellant's application for patent relating to machines for making reinforced concrete beams. Three claims, Nos. 1, 2, and 3, stand allowed, and are not here involved.

Claim 4 is quoted as illustrative; claim 6 is also quoted, because of a particular limitation contained therein:

"4. In a machine for making concrete beams, the combination of a main track or way, a carriage therefor, a bed plate on the top of said carriage with apertures there-through, a series of elevating shoes disposed on the said bed plate within said apertures, vertical plungers attached thereto for elevating the same, a common leveling elevator bar connected to the said plungers, means to elevate said bar, a palette with upwardly curved longitudinal central portion disposed above the said bed plate and elevating shoes, side bars connected to the said bed plate for cooperation with the said palette, the said palette being adapted to support concrete reinforced structures with longitudinal members connected by cross bars supported by suitable chairs, compression rollers with midribs of successively increasing size and overlapping contour disposed above the said palette and in position to act successively on the contents thereof when the carriage is advanced, and a concrete hopper disposed to deliver to the said mold."

"6. In a machine for making concrete beams, the combination of a main track or way, a carriage therefor, a bed plate on the top of said carriage, a palette with upwardly curved longitudinal central portion disposed above the said bed plate, side bars connected to the said bed plate for cooperation with the said palette, concrete reinforced structures with longitudinal members connected by cross bars supported by suitable chairs on the said palette, compression rollers with mid-ribs of successively increasing size and overlapping contour disposed above the said palette and in position to act successively on the contents thereof when the carriage is advanced, and a concrete hopper with delivery spout disposed to deliver to the said mold."

All the other claims are apparently broader in scope than claim 4.

The references cited are: Anderson, 832,441, Oct. 2, 1906; Trevillian, 1,342,192, June 1, 1920; Craig, 1,534,361, April 21, 1925.

All of the appealed claims were rejected by both tribunals of the Patent Office for

lack of patentability in view of the prior art, and claim 6 upon the further ground that it includes the articles operated upon by the machines, that is, to quote from the claim, "concrete reinforced structures with longitudinal members connected by cross bars supported by suitable chairs on the said palette," as a part of the combination.

The brief for appellant states: "The machine is organized specifically for manufacturing reinforced I-beams having longitudinal metallic head and base reinforcing member with cross shear members."

The disclosure, in so far as here material, is of a device having a carriage, carried upon a track, the carriage being supported upon a detachable palette designed to serve as a mold for one side of the beam, while side and end members are designed to form the other parts of the mold. Into the mold there are placed reinforcing members comprising rods connected by vertical cross-bars, after which the concrete material is introduced from a hopper. The mold is then moved along the track beneath a series of stationary rollers. These rollers have ribs projecting from their middle portions, the width of the ribs increasing upon the successive rollers. It is the function of the rollers to compress the plastic concrete into proper form about the reinforcing members, and it is claimed that through the instrumentality of the successive mid-ribs the mix is kneaded in a manner which spreads it toward the head and base of the beam and there compacts it in a desirable manner. The completed beam is finally ejected upon the palette by plungers which act upon shoes underneath the palette.

The patent to Anderson is for a machine for the manufacture of building blocks. The disclosure is of a device having channels or troughs over which are operated carriages equipped with rollers. Molding material is introduced into the channels and when the rollers are rolled therethrough shapes are produced for casting cement blocks.

We do not find in this patent any teaching that the rollers operate upon the blocks themselves in the process of molding or shaping them. The sole function of Anderson's rollers seems to be that of compressing the sand or other molding material in the trough so as to form the shapes into which the blocks are ultimately to be molded.

We feel, therefore, that the Anderson patent has little if any relation to the device of appellant.

The patent to Craig is for a block-making machine and apparently was cited principally because of its showing relating to the ejection of the finished blocks by the elevation of bars actuated by cams rolling over cam tracks.

With the possible exception of claim 4, supra, we do not find the ejection element defined in any of the claims on appeal, although the brief for appellant alludes to claims 5 and 6 as also containing it. It seems to be present in one or more of the allowed claims.

The Craig patent, it is believed, substantially anticipates the ejection feature of appellant's device. This fact, however, under the rule stated by this court in the case of *In re Luks*, 69 F.(2d) 552, 21 C. C. P. A. (Patents) 1005, would not of itself defeat appellant's combination claims, if found otherwise patentable.

The patent to Trevillian relates to an apparatus for molding plastic materials, "such as are used in the manufacture of tile, bricks, coping, etc."

Palettes of whatever configuration may be necessary to manufacture the particular form of article desired are provided, these to be carried upon a flanged-wheel conveyor. The material to be molded is conveyed to the palettes through a hopper, and the conveyor, traveling upon guides, moves the loaded palettes forward under mechanisms which perform the various operations upon the material that are required to produce the desired article, these operations being defined in the specification as "leveling," "tamping," "troweling," "smoothing," and "finishing."

The mechanism for the finishing operation seems to be the feature of the Trevillian device regarded by the tribunals of the Patent Office as substantially anticipating appellant's mid-rib rollers. In this feature there is disclosed a roller mounted upon a shaft; the roller, as shown in the drawings, having enlarged portions or ribs, its ends being flanged and so arranged in relation to the palette as to shear off the edges of the product in a smooth manner.

It does not appear that the rollers of the Trevillian device, above alluded to, perform any function in the actual shaping or molding of the articles which it is designed to produce. Trevillian's specification recites that: "Preferably the roll is revolved at a comparatively low speed in a direction counter to that of the travel of the product

at the point of contact, so as to produce a very smoothly finished surface."

It appears from a study of his patent that Trevillian's rollers merely operate to finish or smooth the surfaces of articles which have been already shaped by the preceding operations.

Such appears to be the finding of the Examiner, which was approved by the Board of Appeals, but the Examiner says: "However, it is held that even smoothing necessarily necessitates some displacement of material, however slight that displacement might be."

The Examiner also calls attention to the fact that certain of the claims on appeal, such as No. 9, merely call for a roller with a mid-rib section thereon followed by a statement of function.

We do not understand the tribunals of the Patent Office to hold that the references cited of themselves constitute an anticipation of appellant's device, but rather it is held that, in view of them, no invention is involved.

The board says: "We can see no invention in employing a roller molding action for the upper portion of a beam and we agree with the examiner that it would be obvious to those skilled in the art that a plurality of rollers of different shapes may be employed when it is not expedient to complete the molding action with one roller."

We regard the foregoing as a correct statement, and a careful analysis of the appealed claims leads us to the conclusion that any structure which they specify, that is not included in the allowed claims, is structure designed for none other than the operation as described in the statement.

It is true that claim 6, *supra*, does include as an element the material being worked upon; that this was one ground upon which the Examiner rejected it, and that the board approved such ground.

We do not deem it necessary to determine whether, were the claim otherwise patentable, the inclusion of this limitation should of itself prevent its allowance, but we do hold that its inclusion may not lend patentability, since the claim is not otherwise allowable.

The decision of the Board of Appeals is affirmed.

Affirmed.

22 C. C. P. A. (Patents)

WEMPLE et al. v. PEIRCE et al.

Patent Appeal No. 3441.

Court of Customs and Patent Appeals.

March 25, 1935.

1. Patents ⇨ 106(2)

Counts of interference held within range of applications for patent for zinc base alloy, though specifications of respective applications defined different results.

2. Patents ⇨ 191

Party securing patent is entitled to protection in use of all substantial parts of ranges covered.

3. Patents ⇨ 113(4)

Part of brief containing quotations from other applications not involved on appeal in patent interference proceeding, and not made part of record, should be disregarded.

Appeal from Board of Appeals of United States Patent Office, Interference No. 62,666.

Interference proceeding between Leland E. Wemple and another, junior parties, and Willis M. Peirce and another, senior parties. The decision of the Examiner of Interferences awarding priority of invention to the senior parties was affirmed by the Board of Appeals of the United States Patent Office, and the junior parties appeal.

Affirmed.

Bailey & Larson, of Washington, D. C. (Roberts B. Larson and Jennings Bailey, Jr., both of Washington, D. C., of counsel), for appellants.

Merton W. Sage, of New York City (C. M. Fisher, of Washington, D. C., of counsel), for appellees.

Before GRAHAM, Presiding Judge, and BLAND, HATFIELD, GARRETT, and LENROOT, Associate Judges.

GARRETT, Associate Judge.

This is an appeal in an interference proceeding wherein the Board of Appeals of the United States Patent Office affirmed the decision of the Examiner of Interferences awarding priority of invention to appellees.

Three counts are involved. They read as follows:

"1. A zinc base alloy consisting principally of zinc containing from .1-2% of Cu